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**FEDERAL ON-SCENE COORDINATOR'S REPORT**  
**FOR**  
**WHITMOYER LABORATORIES NPL SITE**  
**MYERSTOWN, LEBANON COUNTY, PENNSYLVANIA**  
**CERCLA EMERGENCY RESPONSE/REMOVAL ACTION**  
**DECEMBER 17, 1987 - MAY 7, 1991**



**UNITED STATES**  
**ENVIRONMENTAL PROTECTION AGENCY**  
**REGION III, PHILADELPHIA, PENNSYLVANIA**

**WHITMOYER LABORATORIES NPL SITE**  
**ON-SCENE COORDINATOR'S REPORT**

**ORIGINAL**  
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**REGION III  
CERCLA REMOVAL ACTION****PROJECT #195  
FACTS SHEET**

**SITE:** Whitmoyer Laboratories NPL Site

**SIZE:** The Whitmoyer facility covered 17.5 acres; groundwater contamination affected 24 wells.

**LOCATION:** Myerstown, Lebanon County, Pennsylvania

**APPROVAL DATE:** December 17, 1987

**PROJECT DATES:** December 17, 1987 through May 7, 1991

**DESCRIPTION:** The Whitmoyer Laboratories NPL Site was a former veterinary pharmaceutical manufacturing facility that had operated for approximately 50 years under various names. Arsenical pharmaceutical products were produced during the 1950s, and in 1964, groundwater contamination from arsenic was identified. In 1983, PA DER performed an assessment which revealed the contamination had spread to various depths. An assessment performed by EPA in 1987 identified arsenic and volatile organic contaminants in the drinking water at levels exceeding action levels. Although Whitmoyer had begun providing bottled water for drinking and cooking purposes to residences with contaminated wells, the failure of PRPs to commit to taking action to mitigate the threats posed prompted OSC Downie to obtain CERCLA funds and implement the needed mitigative measures. As negotiations to extend the Myerstown Water Authority water line to affected residences were being finalized, EOSC Steuteville was successful in having the PRPs sign a consent order on September 27, 1990, to accept responsibility for the completion of the design and installation of the water line extensions.

**HAZARDOUS SUBSTANCES:** Groundwater contaminated with arsenic and VOCs, drums and containers of ethers, alcohols, acids, arsenic and aniline compounds, phenols, shock-sensitives, and other organic compounds.

**QUANTITIES REMOVED:** 1414 drums, 20 1-gallon containers, 24,657 gallons of arsenic-contaminated waste water, 630 cubic yards of non-RCRA/TSCA-DOT regulated waste.

**OSC:** Jack L. Downie

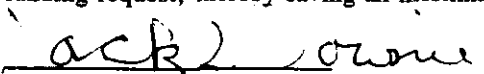
**REMOVAL CONTRACTOR:** O.H. Materials Inc., Princeton, NJ

**DISPOSAL LOCATIONS:** ThermalKEM, SC; Frontier Chemical Waste Process, NY; Caldwell Systems, Inc., NC; Rollins Environmental Services, NJ; ENSCO, Inc., AR; BDT, NY; GSX Services, Inc., SC; Waste Conversion, Inc., PA; and CyanoKEM, MI.

**PROJECT CEILING:** \$1,907,946

**PROJECT COST:** \$1,575,710 (Estimated)

**COMMENTS:** The ultimate signing by PRPs of a consent order to complete the water line extensions eliminated the need for the approval of a \$2-million exemption funding request, thereby saving an inestimable number of CERCLA dollars.

  
Jack L. Downie, Sr. OSC

## FOREWORD

The On-Scene Coordinator (OSC), as mandated by the National Oil and Hazardous Substances Contingency Plan, Section 40 CFR 300.415 (NCP 1990), is required to provide a coordinated federal response capability at the scene of an unplanned or sudden discharge of oil or hazardous substance that poses a potential threat to the public health or environment. In addition, the provisions of Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), promote a coordinated federal, state, and local response to mitigate situations at hazardous waste sites that pose an imminent and substantial threat to public health and/or the environment.

The Whitmoyer Laboratories NPL Site presented an imminent and substantial threat to human health and the environment, thereby providing a legal basis for federal response activities. The provisions of the NCP Section 300.415 were implemented by the U.S. Environmental Protection Agency, Region III, Philadelphia, Pennsylvania.

The OSC would like to thank all of the agencies and individuals who provided valuable assistance and expertise to ensure the successful completion of this cleanup effort.



Jack L. Downie, Sr.  
On-Scene Coordinator  
U.S. EPA, Region III  
Philadelphia, Pennsylvania

## I. INTRODUCTION

### A. Initial Situation

The Whitmoyer Laboratories facility manufactured veterinary pharmaceuticals between 1934 and 1984. Company records indicated that in the late 1950s, production began of a variety of pharmaceuticals that contained arsenic, particularly arsenic acid, for use as additives to cattle feed. Between 1958 and 1964, Whitmoyer reportedly dumped an estimated 4,000,000 pounds of soluble arsenic into an unlined lagoon located on the property. The arsenic leached into subsurface soil and rock formations, causing widespread arsenic contamination of the ground and surface water in the area. Arsenic concentrations in ground water samples taken in 1964 were as high as 14,800 parts per billion (ppb), which is three orders of magnitude above the maximum contamination level (MCL) of 50 ppb. At that time, at least two local residents were hospitalized and subsequently diagnosed as having chronic arsenic poisoning.

In 1964, Whitmoyer Labs became a subsidiary of Rohm & Haas. Around that same time, the ground water contamination problem was identified. Rohm & Haas initiated a ground water pumping and treating operation using seven recovery wells to remove millions of gallons of ground water that were treated with iron sulfate to form an insoluble arsenic precipitate. The arsenic precipitates were then buried on site, and the treated ground water was returned to the subsurface to absorb more soluble arsenic. Rohm & Haas also dug up the lagoon where the 4,000,000 pounds of soluble arsenic had been and placed the arsenic-contaminated liner into a concrete vault on site, along with contaminated soil from beneath the lagoon. The vault was located on the bank of Tulpehocken Creek, a tributary to the Schuylkill River, which bordered the site.

Since 1964, Whitmoyer Labs had a history of remedial actions that were necessary due to the ongoing ground and surface water contamination problems. In 1983, the Pennsylvania Department of Environmental Resources (PA DER) performed an assessment at the facility, which at that time was owned by Stafford Laboratories. Results of the PA DER assessment revealed that the arsenic contamination was not confined to any discrete aquifers, but had spread to various depths. Because of the contamination, Whitmoyer Labs was supplying bottled water to residences that had contaminated private wells. PA DER requested U.S. EPA to investigate the situation and consider the site as a potential CERCLA removal candidate. In February 1984, EPA and TAT conducted a sampling assessment. Because the residents were receiving an alternate supply of drinking water from Whitmoyer, no imminent or substantial threat to public health existed. However, the site was referred to the EPA Site Investigation Section and was ultimately included on the National Priorities List (NPL) as part of Update 2 in October 1984.

In March 1987, PA DER again recommended that EPA consider Whitmoyer for a possible removal action in light of changes in CERCLA with the passage of SARA in 1986. These changes included revising the provision for a removal action to occur in the event of "potential risk of harm" instead of only in the event of "imminent and substantial risk." The primary concern surrounding Whitmoyer Labs was the presence of arsenic contamination in five residential wells at levels above the 50 ppb EPA drinking water criteria, and twelve above the

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10<sup>-4</sup> (15 ppb) cancer risk limit. One well had a VOC level of 557 ppb, exceeding the 500 ppb removal action level. An increase of arsenic contamination by 900 percent had occurred in the Union Canal since the 1983 assessment. EPA also learned that Whitmoyer Labs had discontinued providing affected residences with bottled water when the company filed for bankruptcy in 1984.

Based on this information, the OSC determined that a removal action was appropriate due to the risk of harm present to human health. On December 17, 1987, an action memorandum was approved for funding to perform mitigative efforts, which included providing bottled water to affected residences and installing and maintaining three filter systems to those residences with exceptionally high levels of arsenic and 1,1,1-trichloroethane. The ultimate solution was to provide a permanent water supply system.

**B. Site Location**

The Whitmoyer Laboratories NPL Site is located at 40°, 21', 57" latitude and 76°, 19', 34" longitude, occupying 17 1/2 acres on Fairlane Avenue in Myerstown, Lebanon County, PA. One side of the site is adjacent to Tulpehocken Creek, 35 miles upstream from the creek's confluence with the Schuylkill River, a major source of drinking water for numerous communities, and the other side is adjacent to a CONRAIL line. Fairlane Avenue forms the site's eastern boundary, while Creamery Street adjoins the site to the west. A food storage warehouse was once active in building #18 at the site.

The area surrounding the site is predominantly farmland with scattered farm houses. A Sterling Drug factory is located 2,000 feet east of the site, while P.J. Valves, a manufacturing plant, was located about 1,500 feet to the south. A large, active limestone quarry, locally referred to as the "Calcite Quarry," was located approximately 1.5 miles west of the site.

The population of Myerstown in 1984 was estimated at 3,270. At the beginning of this removal action, an estimated 1,296 and 4,683 persons resided within one and three miles of the site.

**C. Efforts to Obtain Removal from Potential Responsible Parties**

A large number of potential responsible parties (PRPs) were involved due to the ownership history of the site. On Friday, December 11, 1987, Kate Siftar of the EPA CERCLA Removal Enforcement Section (CRES) issued an order to the PRPs to commit to supplying drinking water to 19 residences and to install carbon filtration systems in three residences by December 17, 1987, and to commence these activities on December 18, 1987. In addition, the order stated that the PRPs had until January 10, 1988, to commit to a permanent solution for the affected residences, by either the installation of a water line or combination carbon-ion-exchange filters requiring maintenance and monitoring. The PRPs failed to respond to the order, leaving OSC Downie no alternative but to activate CERCLA funds and begin the mitigative efforts.

On October 10, 1990, the PRPs signed an order to take over the installation of extensions to the Myerstown Water Authority water line.

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## **II. ROSTER OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS**

### **A. Names and Addresses**

<b>NAMES AND ADDRESSES</b>	<b>CONTACT</b>	<b>BRIEF DESCRIPTION OF DUTIES</b>
<b>FEDERAL</b>		
U.S. EPA - Region III Superfund Branch 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Dennis P. Carney, Branch Chief	Provided advice and guidance to Sr. OSC Downie.
U.S. EPA - Region III Western Response Section 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Charles L. Kleeman, Section Chief	Provided advice and guidance to Sr. OSC Downie.
U.S. EPA - Region III Western Response Section 303 Methodist Building Wheeling, WV 26003	Jack L. Downie, Senior OSC	Responsible for coordinating and overseeing all removal activities prior to PRP takeover of the site.
	Paul J. Curtin, FAS	Assisted the OSC on site with cost tracking and administrative tasks.
U.S. EPA - Region III Eastern Response Section 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Stephen D. Jarvela, Section Chief	Provided advice and guidance to Sr. OSC Downie.
	Rich Messimer, FAO	Initiated RCMS and assisted the OSC on site with cost tracking and administrative tasks.
U.S. EPA - Region III Congressional Affairs 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Rich Kampf	Participated in the planning meeting and served as liaison between EPA and Congressional contacts.
U.S. EPA - Region III Remedial Branch 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Jeffrey Pike, RPM	Assisted OSC in coordinating removal activities to comply with Remedial actions.
	Walt Graham, Section Chief	Provided advice and guidance to RPM.
U.S. EPA - Region III CERCLA Removal Enforcement Section 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Pam Tan Kate Siftar	Performed PRP search and assisted with negotiations for an RP takeover of the site
	Bill Steuteville, EOSC	Negotiated consent order with PRPs and monitored subsequent RP cleanup.



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NAMES AND ADDRESSES	CONTACT	BRIEF DESCRIPTION OF DUTIES
U.S. EPA - Region III Office of Regional Counsel 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	William Early Diane F. Ajl Margaret Cardamone Heather Gray Torres	Provided OSC with legal advice and negotiated consent order and site access.
U.S. EPA - Region III Office of Public Affairs 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Nanci L. Sinclair Janet Luffy Deborah Miller Ann Cardinal	Provided assistance regarding public relations concerns and published press releases.
U.S. EPA - Region III Agency for Toxic Substances and Disease Registry 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Joyce McCurdy, Regional Representative David Mellard, Ph.D., Toxicologist	Reviewed analytical results from the private wells and site map, determined health threat from the continued use of arsenic-contaminated water, and provided recommendations on environmental risk.
U.S. EPA - Region III RCRA Section 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Joe Arena	Provided assistance with disposal of hazardous wastes from the site.
U.S. EPA - Region III Environmental Response Team GSA Raritan Depot Edison, NJ 08837 (908) 321-6740	Joseph Laforanara, Ph.D. Andre P. Zownir	Assisted in determining the most feasible technology to address the vault waste.
STATE, COUNTY, AND LOCAL		
Commonwealth of Pennsylvania Department of Environmental Resources Bureau of Waste Management P.O. Box 2063 Harrisburg, PA 17120 (717) 657-4585	James Snyder, Chief Dick Shupe, Water Supply Branch Amy Putnam Jack Curry Joseph Kozlovsky	Referred site to EPA. Performed initial assessment and recommended site to EPA in 12/83. Provided legal counsel for state.
Commonwealth of Pennsylvania Department of Health 2971 C. North 7th Street Harrisburg, PA 17110 (717) 787-8092, 1708	Peter B. Gearhart Dr. K. Sivarajah	Provided advice and guidance regarding state health concerns.
Lebanon County Emergency Management Agency Room 14, Municipal Building 400 South Eighth Street Lebanon, PA 17042	Clyde H. Miller	

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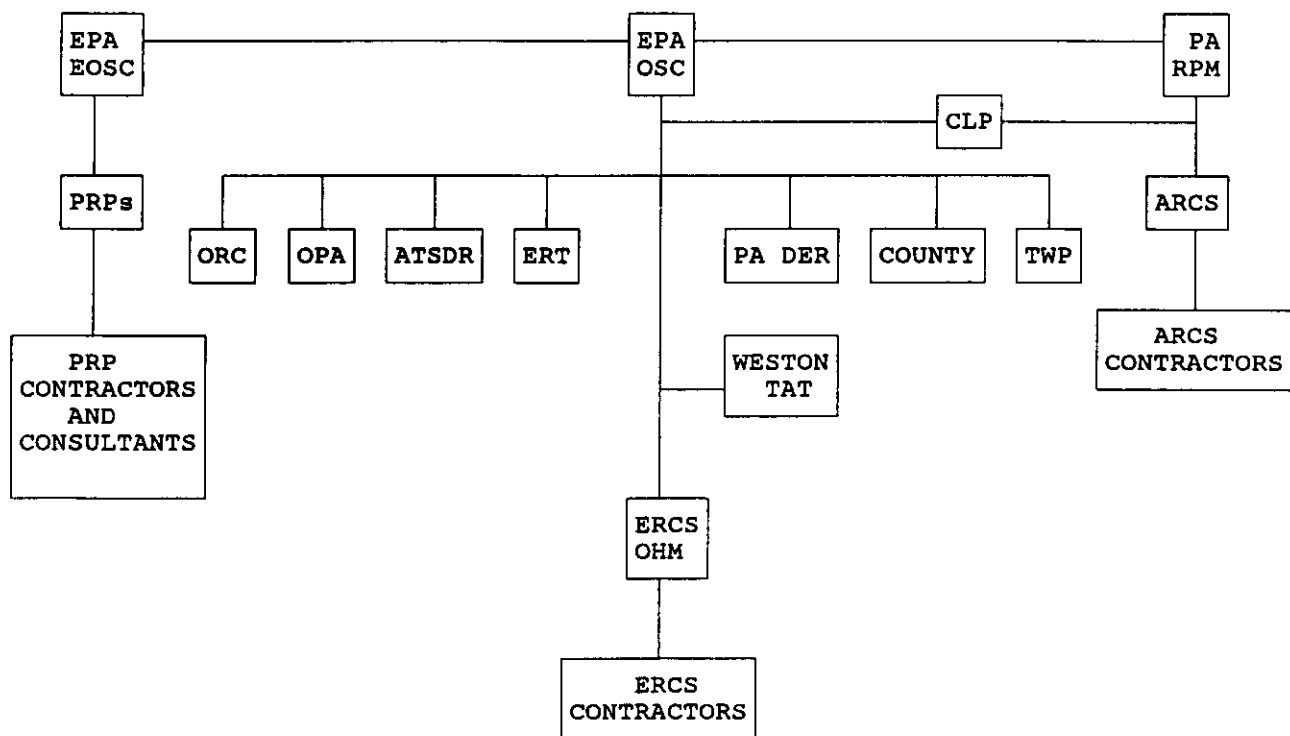
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NAMES AND ADDRESSES	CONTACT	BRIEF DESCRIPTION OF DUTIES
Meyerstown Water Authority 101 East Washington Avenue Meyerstown, PA 17067 (717) 866-6483	Karsnitz Sandoe, Attorney	Served as liaison between EPA and MWA for water line extension negotiations and construction.
Meyerstown Borough 101 East Washington Avenue Meyerstown, PA 17067	Edward Treat, Borough Manager	Participated in water line extension negotiations.
Jackson Township 101 East Washington Avenue Meyerstown, PA 17067		
CONTRACTORS		
Roy F. Weston, Inc. Technical Assistance Team 5 Underwood Court Delran, NJ 08075 (609) 461-4003	Joh DiSciullo Joseph DeAngelis Carol Manning Kevin Scott Mrinal Biswas Michelle Reid	Provided on-site photographic and site activities documentation; support for technical, regulatory, and safety; and contractor monitoring
O.H. Materials, Inc. 90 Elm Street Hopkinton, MA 01748 (508) 435-9561	Jeffrey P. Bodi, Response Manager Tom O'Hara John Copus John Cayton, Chemist	ERCS prime contractor; provided manpower and equipment and coordinated subcontractors.
Waste-Tron, Inc. 1258 Greenbrier Street Charlestown, WV 25311 (304) 344-1640	Bardia Jafari, Chief Chemist	Provided technical expertise during chemical storage tank removal operations.
The Carbon/Graphite Group, Inc. 606 Liberty Avenue Pittsburgh, PA 15222 (412) 562-3700	Rod R. Stoll, Vice President, Procurement and Logistics	Accepted calcium carbide for the manufacture of acetylene gas.
ThermalKEM, Inc. 454 S. Anderson Road Rock Hill, SC 29730	Michael Strayer Samuel Durham	Disposal facility for tank and vat wastes.
Clean Harbors of Natick, Inc. 10 Mercer Road Natick, MA 01760		Disposal facility for laboratory wastes.
Waste Conversions, Inc. 2869 Sandstone Drive Hatfield, PA 19440		Disposal facility for laboratory wastes.
Frontier Chemical Waste Process, Inc. 4626 Royal Avenue Niagara Falls, NY 14303		Disposal facility for laboratory wastes.

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NAMES AND ADDRESSES	CONTACT	BRIEF DESCRIPTION OF DUTIES
BDT 4255 Research Parkway Clarence, NY 14031		Disposal facility for laboratory wastes.
Cyclochem Inc. 217 S. First Street Elizabeth, NJ 07206		Disposal facility for laboratory wastes.
GSX Services of SC, Inc. Route 1, Box 255 Pinewood, SC 29125		Disposal facility for laboratory wastes.
GSX Services, Inc. DBA Laidlaw Environmental Services Route 11, Box 3 Reidsville, NC 27230		Environmental Services.
Caldwell Systems, Inc. Mt. Herman Road Lenoir, NC 28645		Environmental Services.
Rollins Environmental Services, Inc. Route 322 Bridgeport, NJ 08014		Disposal facility for laboratory wastes.
Ensco, Inc. American Oil Road El Dorado, AR 71730-1957		Disposal facility for laboratory wastes.
Chem-Clear of Baltimore, Inc. 1910 Russell Street Baltimore, MD 21230-3144		Disposal facility for laboratory wastes.

## B. Organization of the Response



## C. Glossary of Abbreviations

ARCS	Alternate Remedial Contract Services
ATSDR	Agency for Toxic Substances and Disease Registry
BNA	Base/neutral acids (semi-volatile organic compounds)
CA	EPA Congressional Affairs
CEMA	Lebanon County Emergency Management Association
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
Chem Fix	Chem Fix Technologies, Inc.
CLP	EPA Contract Laboratory Program
CRES	EPA CERCLA Removal Enforcement Section
CRL	EPA Central Regional Laboratory
DOT	U.S. Department of Transportation
E&E	Ecology and Environment, Inc.
EMA	Emergency Management Association
EOSC	CRES On-Scene Coordinator
EPA	United States Environmental Protection Agency
EPA HQ	EPA Headquarters, Washington, DC
EP	Extraction Procedure, as in "EP Toxicity"
ERCS	Emergency Response Cleanup Services; under contract to EPA

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ERM	Environmental Resources Management, Inc., consultant to Rohm & Haas
ERS	EPA Emergency Response Section until name changed to Eastern Response Section in 1988.
ERS	EPA Eastern Response Section
ERT	EPA Environmental Response Team
FAO	EPA Field Administrative Officer
FAS	EPA Field Administrative Specialist
HCl	Chemical symbol for hydrochloric acid
kg	Kilograms; unit for measuring contaminant levels
MCL	Maximum contaminant level
MWA	Myerstown Water Authority
NCP	National Oil and Hazardous Substances Contingency Plan
NPL	National Priorities List
NUS	Halliburton NUS Environmental Corp., Cincinnati, Ohio
OHM	O.H. Materials, Inc., Findlay, Ohio
OPA	EPA Office of Public Affairs
ORC	EPA Office of Regional Counsel
OVA	Organic Vapor Analyzer (air monitoring instrument)
PA DER	Pennsylvania Department of Environmental Resources
PA DOH	Pennsylvania Department of Health
PCE	Tetrachloroethylene (perchloroethylene)
POLREP	Pollution Report (report of daily site activities)
PPB	Parts per billion
PPE	Expendable personal protective equipment
PPM	Parts per million
PRP	Potential Responsible Party (as referred prior to accepting cleanup responsibility)
QA/QC	Quality Assurance/Quality Control
RA	EPA Region III Regional Administrator
RCMS	EPA Removal Cost Management System, computerized program
RCRA	Resource Conservation Recovery Act
REAC	Roy F. Weston, Inc., Regional Engineering Analytical Contract
RI/FS	Remedial Investigation/Feasibility Study
RM	ERCS Response Manager
ROD	Record of Decision
RP	Responsible Party (as referred after accepting cleanup responsibility)
RPM	EPA Remedial Project Manager
RRS	EPA Removal Response Section before name changed to WRS in 1988.
SARA	Superfund Amendments and Reauthorization Act of 1986
SIS	EPA Site Investigation Section
SSM	Spotts, Stevens and McCoy, engineering firm
T&D	Transport and disposal
TAT	Roy F. Weston, Inc., Technical Assistance Team; under contract to EPA
TCE	Trichloroethylene
TSCA	Toxic Substances Control Act
VOC	Volatile organic compound
WRS	EPA Western Response Section; name changed from RRS.

### **III. NARRATIVE OF EVENTS**

The approval on December 17, 1987, of the initial action memorandum launched the Superfund removal action to mitigate the threat to public health posed by the Whitmoyer Laboratories Site. The scope of work outlined in the initial action memorandum was to provide bottled drinking water or carbon filters to affected residences according to concentration of arsenic and VOC's in the well, and, as a long-term solution, to extend the municipal water lines to all residences with contaminated well water. As of December 24, 1987, all affected residents had been supplied with bottled water, and carbon filters were in place in three homes as recommended by ATSDR.

The EPA Emergency Response Team, on the basis of analytical data for soil samples collected around the storage vault on the site and along Tulpehocken Creek, recommended that a removal action be conducted on the site itself. On September 21, 1988, an additional funding request was approved for such action. The scope of work proposed in the additional funding request was three phased:

- Identify, segregate, and pack laboratory reagent chemicals located in two separate laboratories on the Whitmoyer Laboratories Site, and repair the roof of the structure on site to store wastes temporarily. Reagent chemicals in an estimated 2000 containers were identified as possibly being shock-sensitive substances.
- Assess, sample, and stabilize an estimated 800 drums of known and unknown substances.
- Treat or dispose of secured drum and labpacked waste streams as appropriate.

The cleanup contractor mobilized a crew to the site on November 1, 1988, to begin the removal activities. On December 16, 1988, a 12-month exemption to the statutory limitations was signed. The OSC requested the exemption in order to continue providing bottled water and maintaining the filter systems, to continue work on plans for the water line extension, and to handle treatment and disposal of waste streams from the site.

On September 13, 1990, OSC Downie signed the letter of agreement between the U.S. EPA and the Myerstown Water Authority for the water line extension. On October 3, 1990, Rohm & Haas, and Smith Kline and Beecham signed a consent order to take over installation of the water line extension. On May 7, 1991, OSC Downie officially concluded Superfund removal activities at the site and turned over responsibility for future site-related activities to OSC William Steuteville of the CERCLA Enforcement Section.

#### **IV. RESOURCES COMMITTED**

##### **A. Initial Funding Request**

On December 17, 1987, the Regional Administrator approved the use of \$785,455 in CERCLA funds to mitigate the threats posed to the public health and the environment by the presence of arsenic and volatile organics contamination in local private wells due to operations at Whitmoyer Laboratories.

A Delivery Order for \$15,000 was issued on December 17, 1987 to O.H. Materials under the ERCS mechanism to commence delivering bottled water to affected residents.

##### **B. Funding Increase and Change of Scope in Work Request**

Due to the unexpected abandonment of the Whitmoyer Labs facility, Sr. OSC Downie requested additional funding of \$1,125,491 to add to the project ceiling and change the scope of work to include the large quantity of hazardous materials present on the facility. The additional funding request was approved by the Regional Administrator on September 21, 1988, for a new project ceiling of \$1,907,946.

##### **C. One-Year Exemption Request**

Due to the change in the scope of work, Sr. OSC Downie requested an exemption to the one-year statutory limit under SARA in order to continue response actions to mitigate the emergency situation at the Whitmoyer Labs NPL Site. The request was approved by the Regional Administrator on December 16, 1988.

##### **D. Estimated Total Cost Summary**

###### **1. Extramural**

ERCS	\$1,277,867
TAT	135,878
Extramural Subtotal	\$1,413,745

###### **2. Intramural**

EPA Direct	\$ 54,181
EPA Indirect	107,784
Intramural Subtotal	\$ 161,965

**TOTAL ESTIMATED PROJECT COST      \$1,575,710**

**PER CENT OF CEILING EXPENDED = 83%**

## **V. EFFECTIVENESS OF THE REMOVAL**

### **A. Activities of the Various Agencies**

#### **1. Responsible Party(ies)**

The Responsible Parties, Smith Kline and Beecham, and Rohm & Haas, ultimately assumed responsibility for implementing the water line extension.

#### **2. Federal Agencies and Special Forces**

Jack Downie, serving as the Senior Federal On-Scene Coordinator, directed all site activities and was responsible for the overall success of the project. The OSC closely coordinated with other EPA personnel; with other federal agencies; and with state, county, and local agencies. The OSC also directed the daily activities of TAT personnel and the ERCS contractor.

The EPA CERCLA Removal Enforcement Section was represented by Pam Tan and Kate Siftar, who performed the PRP search and assisted with negotiations for the RP takeover of the site. EOSC William Steuteville assumed oversight of the water extension project following the RP takeover.

#### **3. State and Local Forces**

The Commonwealth of Pennsylvania was represented by James Snyder, Amy Putnam, Jack Curry, and Joseph Kozlovsky of the Pennsylvania Department of Environmental Resources, Bureau of Waste Management; by Dick Shupe of the Water Supply Branch; and by Peter B. Gearhart and Dr. K. Sivarajah of the Department of Health. Clyde H. Miller represented the Lebanon County Emergency Management Agency, and Edward Treat, Borough Manager, represented Meyerstown Borough. Karsnitz Sandoe served as the attorney for the Meyerstown Water Authority.

#### **4. Contractors**

Roy F. Weston, Inc., Major Programs Division, provided members of the Technical Assistance Team from the Delran, NJ, office. TAT provided removal support, including technical assistance, site safety monitoring, cleanup contractor monitoring, sampling, cost tracking, photodocumentation, air monitoring, and written documentation of site activities.

O.H. Materials, Inc., was the Emergency Response Cleanup Services contractor responsible for supplying the personnel and equipment necessary to complete the project and perform the actual removal operations.



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## **B. Analytical Synopsis**

Prior to EPA involvement with the Whitmoyer Laboratories Site, PA DER had conducted sampling of groundwater in the vicinity of the site and had found arsenic and volatile organic compounds. EPA and its contractors conducted sampling before and during the removal cleanup of the site. Analysis of groundwater samples revealed that 12 residential wells in the area of the site have arsenic concentrations in excess of 15 parts per billion (ppb), the 10<sup>-4</sup> cancer risk level; four wells have arsenic concentrations in excess of 50 ppb, the Maximum Contaminant Level for arsenic in drinking water. Arsenic concentrations in groundwater have historically been as high as 14,800 ppb. In addition to arsenic, several of the wells were also found to be contaminated with volatile organic compounds, principally trichloroethane. One home well has a trichloroethane concentration of 557 ppb; the removal action level for this compound is 500 ppb.

EPA contractors collected soil, lagoon, and vault samples on the Whitmoyer Laboratories Site for analysis for EP Toxicity, full priority pollutants, and arsenic. Sediment and surface water samples were also collected from Tulpehocken Creek and Union Canal for analysis for total arsenic. The results of these analyses indicated that arsenic was migrating out of the vault.

The ERCS contractor sampled containers at the Whitmoyer Laboratories Site during the removal activities there. Analytical results were used to identify the contents of the containers and to determine compatibility for subsequent bulking operations.

Bench scale solidification studies were made on samples from the vault to determine the feasibility of on-site fixation and stabilization.

## **C. Quantities Removed**

Wastes removed from the site consisted of 1414 drums and 20 one-gallon containers of hazardous substances, including flammable and corrosive liquids. A total of 24,657 gallons of arsenic-contaminated waste water and 630 cubic yards of non-RCRA/TSCA/DOT-regulated waste were also removed. In addition to the substances removed for disposal, a variety of other hazardous wastes were neutralized on the site: one 55-gallon drum of 35 percent hydrazine, a small quantity of potassium metal, one container of benzoyl peroxide, two jars of picric acid, four 8-ounce bottles of nitromethane, one 1-gallon can of petroleum ether, and small quantities of yellow and red phosphorus. Once they were neutralized, these substances were also removed.

Disposal methods varied from landfill to incineration for wastes taken off the site. Actual manifests are stored in the site file, EPA Region III Central File Room, Philadelphia, Pennsylvania. Following is a table that summarizes the manifests for these wastes:

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**TABLE 1 - SUMMARY OF DISPOSAL MANIFESTS**

MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
AR-161264	4/18/89	4 DM	340 g	Flam Liq, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	4/20/89	Horwith Trucks
AR-161264	4/18/89	35 DM	2975 g	Haz Waste Solid, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	4/20/89	Horwith Trucks
AR-161264	4/18/89	17 DF	1870 g	Haz Waste Solid, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	4/20/89	Horwith Trucks
AR-398601	3/23/90	16 DM	935 g	Haz Waste Solid, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	3/28/90	Buffalo Fuels, Inc.
AR-398601	3/23/90	1 DM	385 g	Haz Waste Liquid, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	3/28/90	Buffalo Fuels, Inc.
AR-398601	3/23/90	1 DF	55 g	Haz Waste Liquid, NOS	Ensco, Inc., Eldorado, AR	ARD069748 192	3/28/90	Buffalo Fuels, Inc.
MDC0203669	6/27/89	1 DF	85 g	Waste Corrosive Liquid, NOS	Chem-Clear, Baltimore, MD	MDD98055 5189	6/27/89	Horwith Trucks
MAF282903	10/19/90	1 DM	55 g	Waste Corrosive Liquid, NOS	Clean Harbors, Natick, MA	MAD98052 3203	10/22/90	Clean Harbors
MAF282904	10/10/90	2 DM	110 g	Waste Corrosive Liquid, NOS	Clean Harbors, Natick, MA	MAD05345 2637	10/22/90	Clean Harbors
MAF282904	10/10/90	9 DM	-	Empty Drums	Clean Harbors, Natick, MA	MAD05345 2637	10/22/90	Clean Harbors
NJA0603825	3/24/89	9 DM	257 g	Haz Waste Solid, NOS	Rollins, Bridgeport, NJ	NJD071629 976	6/2/89	SJ Transp.
NJA0603825	3/24/89	40 DM	1472 g	Waste Flam Liq, Poisonous	Rollins, Bridgeport, NJ	NJD071629 976	6/2/89	SJ Transp.
NJA0640338	6/28/90	17 DF	880 g	Waste Corrosive Liq, NOS	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640338	6/28/90	20 DM	1155 g	Waste Corrosive Liq, NOS	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640338	6/28/90	1 DM	55 g	Haz Waste Solid, NOS	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640338	6/28/90	1 DF	55 g	Haz Waste Liquid, NOS	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640339	6/28/90	2 DM	110 g	Haz Waste Liquid, NOS	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640339	6/28/90	1 DM	55 g	Non-Reg Material	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels

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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
NJA0640339	6/28/90	5 DF	275 g	Non-Reg Material	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640342	6/28/90	7 DF	385 g	Waste Flam Liq, Corrosive	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NJA0640342	6/28/90	7 DM	385 g	Waste Flam Liq, Corrosive	CycleChem, Inc., Elizabeth, NJ	NJD002200 046	6/29/90	Buffalo Fuels
NYB1358577	1/17/90	1 TT	5000 g	HazWaste Liq or Solid, NOS	Frontier Chem, Niagara Falls, NY	NYD043815 703	1/18/90	Buffalo Fuels
NYB3040461	10/17/89	1 TT	5000 g	HazWaste Liq, NOS	Frontier Chem, Niagara Falls, NY	NYD043815 703	1/18/90	Buffalo Fuels
NYA7629939	3/8/89	1 TT	5657 g	HazWaste Liq, NOS	Frontier Chem, Niagara Falls, NY	NYD043815 703	3/9/89	Weaverton
NYA7732476	6/13/89	1 TT	5000 g	HazWaste Liq, NOS	Frontier Chem, Niagara Falls, NY	NYD043815 703	6/14/89	SJ Transp.
NYA7935156	3/9/89	212 DM	600 g	Hydrochloric Acid Mixture	Frontier Chem, Niagara Falls, NY	NYD043815 703	3/14/89	Hazmat Environment
NYA8136504	6/15/89	9 DM	1750 p	Waste Sodium Chlorate, Oxidizer	BDT, Clarence, NY	NYD000632 372	6/19/89	Horwith Trucking
NC-00002	3/10/89	54 DM	3025 g	HazWaste Liq, NOS	Caldwell System, Lenoir, NC	NCD086871 282	3/20/89	Caldwell
NC-00003	3/10/89	69 DM	3795 g	HazWaste Liq, NOS	Caldwell Systems, Lenoir, NC	NCD086871 282	3/14/89	Caldwell
NC-00004	3/14/89	41 DF	3690 g	HazWaste Liq, NOS	Caldwell Systems, Lenoir, NC	NCD086871 282	3/20/89	Caldwell
NC-00004	3/14/89	10 DF	900 g	Waste Oxidizer, Corrosive Liq, NOS	Caldwell Systems, Lenoir, NC	NCD086871 282	3/20/89	Caldwell
NC-00005	3/14/89	51 DF	4590 g	Haz Waste Liq, NOS	Caldwell Systems, Lenoir, NC	NCD086871 282	3/24/89	Pfrommer Inc.
NC-00006	3/15/89	35 DF	3150 g	Haz Waste Liq, NOS	Caldwell Systems, Lenoir, NC	NCD086871 282	3/30/89	Pfrommer Inc.

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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
NC-00006	3/15/89	11 DM	935 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	3/30/89	Pfrommer Inc.
NC-00006	3/15/89	9 DF	810 g	Waste Oxidizer, Corrosive Liq.	Caldwell Systems Lenoir, NC	NCE086871 282	3/30/89	Pfrommer Inc.
NC-00007	3/15/89	14 DF	1120 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	4/3/89	Pfrommer Inc.
NC-00007	3/15/89	45 DM	3825 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	4/3/89	Pfrommer Inc.
NC-00010	4/26/89	7 DM	595 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	4/28/89	Bart Trucking
NC-00010	4/26/89	5 DM	425 g	Waste Oxidizer Corrosive Liq	Caldwell Systems Lenoir, NC	NCD086871 282	4/28/89	Bart Trucking
NC-00015	6/27/89	2 DM	170 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	7/7/89	MD Liq Waste
NC-00015	6/27/89	4 DF	310 g	Haz Waste Liq, NOS	Caldwell Systems Lenoir, NC	NCD086871 282	7/7/89	MD Liq Waste
NC-00018	7/18/89	14 DF	770 g	Waste Oxidizer, Corrosive Liq	Caldwell Systems Lenoir, NC	NCD086871 282	7/27/89	Freehold Cartage
NC-00020	7/3/89	2 DM	110 g	Waste Oxidizer, Corrosive Liq	Caldwell Systems, Lenoir, NC	NCD086871 282	7/6/89	Eldridge
NC-72790	7/26/90	7 DM	385 g	Waste Acid Liq, NOS	GSX, Reidsville, NC	NCD000648 451	7/27/90	GSX
PAC0528905	1/25/90	67 DM	3685 g	Waste Hydrochloric Acid	Waste Conversion, Hatfield, PA	PAD085690 592	1/25/90	Waste Conversion
PAC0539615	11/22/89	1 DM	138 p	Waste Corrosive Solid	Waste Conversion, Hatfield, PA	PAD085690 592	11/22/89	Waste Conversion
PAC0539615	11/22/89	17 DM	2719 p	Haz Waste Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/22/89	Waste Conversion
PAC0539615	11/22/89	62 DM	10579 p	Non-Reg Material	Waste Conversion, Hatfield, PA	PAD085690 592	11/22/89	Waste Conversion

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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
PAC0919763	12/15/89	1 DM	7 p	Waste Poison B Solid	Waste Conversion, Hatfield, PA	PAD085690 592	12/15/89	Waste Conversion
PAC0919763	12/15/89	1 DF	6 p	Waste Poison B Solid	Waste Conversion, Hatfield, PA	PAD085690 592	12/15/89	Waste Conversion
PAC0920006	12/12/89	1 TT	4000 g	Haz Waste Liq, NOS	Cyanokem, Detroit, MI	MID098011 992	12/13/89	Buffalo Fuel
PAC1000042	11/29/89	2 DM	110 g	Waste Flam Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000042	11/29/89	6 DM	285 g	Waste Oxidizer, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000053	11/29/89	1 DM	55 g	Waste Oxidizer, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000053	11/29/89	1 DM	17 g	Waste ORM-A, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000053	11/29/89	2 DM	110 g	Waste Alkaline Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000064	11/29/89	2 DM	100 g	Waste Acid Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000064	11/29/89	6 DM	330 g	Waste Acid Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000064	11/29/89	1 DM	55 g	Waste Acid Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000064	11/29/89	1 DM	55 g	Waste Acid Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000075	11/29/89	1 DM	55 g	Waste Acid Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1000075	11/29/89	40 DM	5305 p	Haz Waste Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	11/29/89	Waste Conversion
PAC1001151	12/6/89	2 DM	83 g	Waste Flam Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion

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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
PAC1001151	12/6/89	1 DM	17 g	Waste Poison B Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001151	12/6/89	1 DM	33 p	Waste Corrosive Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001151	12/6/89	1 DM	218 p	Haz Waste Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001162	12/6/89	3 DM	403 p	Haz Waste Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001162	12/6/89	12 DM	643 g	Waste Alkaline Liquid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001173	12/6/89	1 DM	83 p	Waste Compressed Gas, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001173	12/6/89	3 DF	17 p	Waste Poison B Solid, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001184	12/6/89	2 DF	32 p	Waste Flammable Liq, NOS	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001184	12/6/89	1 DF	2 p	Waste Benzoyl Peroxide	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
PAC1001184	12/6/89	1 DF	1 p	Waste Organic Peroxide Liq	Waste Conversion, Hatfield, PA	PAD085690 592	12/6/89	Waste Conversion
SC-00007	6/28/90	1 DF	55 g	Waste Flam Liq, Corrosive	Thermakem Inc., Rock Hill, SC	SCD044442 333	6/29/90	Chem- Freight
SC-00008	6/28/90	1 CM	30 yd <sup>3</sup>	Non-Req. Material	GSX; Pinewood, SC	SCD070375 985	7/2/90	SJ Transp.
SC-000013	6/28/89	37 DM	3145 g	Haz Waste Liq, NOS	Thermakem Inc., Rock Hill, SC	SCD044442 333	6/30/89	Horwith
SC-000013	6/28/89	38 DF	2090 g	Haz Waste Liq, NOS	Thermakem Inc., Rock Hill, SC	SCD044442 333	6/30/89	Horwith
SC-000014	6/26/89	4 DM	340 g	Haz Waste Liq, NOS	Thermakem Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith

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Substance  
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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
SC-000014	6/26/89	10 DF	550 g	Haz Waste Liq, NOS	Thermalkem, Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000014	6/26/89	39 DF	3315 g	Haz Waste Liq, NOS	Thermalkem, Inc, Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000016	6/27/89	10 DM	850 g	Waste Flam Liq, NOS	Thermalkem, Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000016	6/27/89	1 DF	85 g	Waste Flam Liq, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000017	6/27/89	42 DM	12600 p	Haz Waste Solid, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000017	6/27/89	1 DM	150 p	Haz Waste Solid, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000017	6/27/89	4 DF	1600 p	Haz Waste Solid, NOS	Thermalkem Inc. Rock Hill, SC	SCD044442 333	6/29/89	Horwith
SC-000018	8/29/89	1 DT	35 yd <sup>3</sup>	Non-Reg Material	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000019	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Material	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000020	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Material	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000021	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Material	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000022	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000023	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000024	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000025	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000026	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000027	8/29/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/30/89	Horwith
SC-000028	8/30/89	1 DT	40 yd <sup>3</sup>	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/31/89	Horwith

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MANIFEST NUMBER	DATE SENT	NO. DRUMS CONT. TYPE	AMT.	MATERIAL	DISPOSAL FACILITY	FACILITY RCRA ID#	DATE RCVD	TRANS- PORTER
SC-000029	8/30/89	1 DT	40 yd³	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/31/89	Horwith
SC-000030	8/30/89	1 DT	40 yd³	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/31/89	Horwith
SC-000031	8/30/89	1 DT	40 yd³	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/31/89	Horwith
SC-000032	8/30/89	1 DT	40 yd³	Non-Reg Materials	GSX, Pinewood, SC	SCD070375 985	8/31/89	Horwith
SC-01015	11/27/89	33 DM	1815 g	Haz Waste Solid, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	11/30/89	Horwith
SC-01015	11/27/89	11 DM	605 g	Waste Flam Liq, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	11/30/89	Horwith
SC-01015	11/27/89	5 DM	275 g	Haz Waste Liq, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	11/30/89	Horwith
SC-	6/25/89	56 DM	4760 g	Haz Waste Liq, NOS	Thermalkem Inc., Rock Hill, SC	SCD044442 333	6/27/89	Horwith
Total Gallons	89,241	KEY						
Total Pounds	35,643	DF - Fiberboard or plastic drums DM - Metal drums, barrels TT - Tank trucks DT - Dump trucks  g - gallons p - pounds yd³ - cubic yards						
Total Yd³	625							



## **VI. CHRONOLOGY OF EVENTS**

This section provides a synopsis of events as they occurred at the Whitmoyer Labs NPL Site. The chronology is derived from POLREPs, photographic documentation, and site logs. As POLREPs are maintained in the EPA Region III Regional Response Center, they have not been included in this report. Copies may be obtained upon request at the EPA address provided in Section II, Roster of Agencies, Organizations and Individuals.

### **March 16, 1987**

EPA was contacted by PA DER Snyder to examine the Whitmoyer Labs for possible removal actions in light of changes in the NCP and the promulgation of SARA. PA DER provided EPA with background information regarding high arsenic concentrations and the presence of volatile organic compounds in area groundwater wells to assist in a site assessment.

### **June 1987**

Per direction of Sr. OSC Downie, TAT visited Whitmoyer Labs to examine the vault. TAT was accompanied by the site owner, Dr. Frank Lucero, and the plant manager, Arnold Smith. Monitoring well and standpipe locations were determined for groundwater testing.

TAT contacted Rohm & Haas representative George Schnable to request a copy of the blueprints for the vault they had constructed on site in 1964. Since that time, the vault was used to contain waste and contaminated soil from the site lagoon.

### **July 9, 1987**

TAT performed an investigation into PA DER files regarding Whitmoyer Labs. Documentation revealed that the vault contained 4500 cubic yards of soluble arsenic waste.

### **July 10, 1987**

Sr. OSC Downie and TAT, accompanied by Dr. Lucero, inspected the vault.

### **July 13, 1987**

CRES Tan was updated on site status. TAT collected several split spoon samples from the main compoundment/lagoon area to a depth of six feet. Soil samples were collected from the perimeter of the vault, as well as one sample from the vault contents.

### **July 16, 1987**

Samples collected 7/13/87 (excluding split samples) were shipped to a CLP lab for EP Tox, full priority pollutant, and total arsenic analyses.

### **July 20, 1987**

ERM, consultants for Rohm & Haas, Beecham, and Buckeye Pipeline, prepared another Technical Assessment Report concluding that removal of the vault contents did not require immediate action.

**July 21, 1987**

TAT traveled to Harrisburg, PA, to examine the most current PA DER file concerning Whitmoyer Labs and requested photocopies of several relevant documents, including a detailed chronology of past site waste disposal practices, to be incorporated into the EPA Whitmoyer site file.

**July 22, 1987**

The CLP lab was unable to provide EP Tox analysis. Therefore, the split samples were sent to Wastex Labs under TAT Special Projects.

**July 24, 1987**

TAT assisted subcontractor, Geophysical Survey Systems, in performing ground penetrating radar and magnetometer surveys of the central lagoon to determine its dimensions. TAT also collected sediment and surface water samples from Tulpehocken Creek and Union Canal, as well as soil samples in the vicinity of the storage vault to determine contaminant levels near the site. All samples were to be analyzed for total arsenic.

ERM provided Sr. OSC Downie with a copy of their 1986 Technical Assessment Report, along with the scope of work planned for the RI/FS prepared by their contractor, E&E, to be used to supplement the needs of EPA for the removal action. In addition, Rohm & Haas attorney Friedell provided Sr. OSC Downie with a copy of the blueprints for the vault to be used in evaluating its integrity.

**August 5, 1987**

Analytical results for 7/24/87 soil samples identified extremely high levels of arsenic, up to 28,400 ppm.

EPA continued to gather evidence to refute the ERM report that there was no immediate concern to remove the contents of the vault.

A contour map drawn from the ground penetrating radar and magnetometer survey results indicated the presence of approximately 15 buried drums beneath the lagoon cap.

**September 24, 1987**

Sr. OSC Downie and TAT met with Emergency Response Section (ERS) Chief Jarvela to discuss project funding and disposal options. Sr. OSC Downie also met with CRES Tan to discuss remedial actions that could occur during the RI/FS.

Chem Fix studied sample taken from the vault to determine the feasibility of on-site fixation/stabilization. The feasibility study indicated that the fixation process would only increase the volume of waste by approximately 5 to 10 per cent. TAT collected additional samples from the vault and delivered them to Chem Fix for additional study.

**October 14, 1987**

Chem Fix performed additional bench scale solidification studies on the vault wastes and reported that \$1,500 would be required to conduct further analytical work. Sr. OSC Downie

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discussed this with ERS Chief Jarvela and determined that TAT Special Projects would be used for the additional analytical work.

**October 15, 1987**

A teleconference was held at 1400 hours with ERS Chief Jarvela, EPA Deputy Director of the Hazardous Waste Management Division Schreckengost, and Sr. OSC Downie regarding Congressional inquiries concerning contaminated drinking water and children entering Whitmoyer Labs through holes in the fence. A memo indicating a cancer risk for a groundwater sample was also discussed.

Results of the teleconference were that, based on site visits, the fence at the site was basically intact; however, there were several areas where trespassers could break through without much difficulty. Sr. OSC Downie and ERS Chief Jarvela determined that no immediate action was warranted regarding the water sample since it was a monitoring well sample, not a drinking water sample.

**October 16, 1987**

CRES Siftar informed the OSC that several requests had been made to have residential wells sampled. CRES Siftar also attempted to persuade PRPs to take over assessment and cleanup responsibilities.

**October 19, 1987**

Sr. OSC Downie contacted the former Industrial Health and Safety Officer for Whitmoyer Labs to obtain information regarding the vault, lagoon and groundwater problems. TAT was given permission to engage this person as a consultant, if necessary.

The OSC spoke with PA DER Water Supply Branch Shupe and learned that approximately 10 residents had arsenic and VOCs in their well water. All had been warned of the threats, and Whitmoyer Labs made arrangements for alternate water supplies for residences with arsenic levels above 50 ppb, the MCL for arsenic.

**October 20, 1987**

Sr. OSC Downie held a teleconference with PA DER Shupe and Curry to discuss concern regarding aniline and other parameters for which testing had not yet been conducted. PA DER was preparing well water maps to assist in future well water sampling.

**October 23, 1987**

Sr. OSC Downie contacted disposal facilities for prices for the removal of the vault contents. The high arsenic content of the vault waste would require separate "Poison B" packaging for over-the-road transport per DOT regulations. The estimate received for removing the estimated 4500 cubic yards of vault waste, plus an additional 2000 cubic yards of contaminated concrete and soil, was \$3 million. Any extensive work in assessing groundwater contamination or providing alternate water supplies would incur additional costs.

**November 2, 1987**

Evelyn Carter of Chem Fix, Inc., reported to Sr. OSC Downie that, based on vault samples, the average arsenic level in the vault contents was 670,000 ppm, or 6.7 per cent.

Sr. OSC Downie conducted a meeting attended by CRES, Remedial, EPA SARA, PA DER, and TAT personnel, and explained the significance of the analytical data that indicated arsenic was migrating out of the vault and was threatening the environment. The OSC also explained the options for the disposal of vault contents, including T&D, on-site fixation, and construction of a secure on-site vault for reburial.

Sr. OSC Downie contacted ORC Aji and received a preliminary opinion that those people who had received a monetary cash settlement from Whitmoyer Labs for resolution of their drinking water supply problem may not be eligible for Superfund money; however, those other residents who were previously provided with the bottled water by Whitmoyer Labs may be eligible.

**November 3, 1987**

PA DER Snyder requested a temporary solution for residents with contaminated wells until a permanent solution could be implemented to solve the groundwater contamination problem. PA DER investigated using limited state funds to provide an alternate water source should EPA not be able to do so.

Sr. OSC Downie accelerated the EPA sampling schedule to include testing for organic compounds of concern.

**November 4, 1987**

Sr. OSC Downie and PA DER Kozlovsky discussed the possibility of installing municipal water lines in Myerstown. PA DER felt that such an installation may serve as the only viable, long-term solution to the groundwater contamination problem. TAT and PA DER Curry began sampling residential wells.

Sr. OSC Downie contacted ERT Laformara to request assistance in developing the most feasible technology for treating the vault contents and evaluating the groundwater problem.

**November 5, 1987**

In a teleconference between ORC Aji, CRES Siftar, and Sr. OSC Downie, it was determined that CRES would be allowed sufficient time to persuade PRPs to provide alternate water supplies in the event EPA deemed alternate supplies necessary to mitigate the risk of harm to the residents. Sr. OSC Downie briefed OPA Miller on the site situation and prepared for a future public meeting.

RPM Pike agreed that the installation of permanent water lines under the Removal Program would be consistent with future remedial action.

TAT completed sampling 24 residential wells and surveyed residents regarding their current drinking water supply status.

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**November 20, 1987**

Analytical results were forwarded to ATSDR in both Philadelphia and Atlanta for review.

TAT began investigating the feasibility of installing ion-exchange columns or carbon filters on wells as an alternative to extending the municipal water line to affected residences. Sr. OSC Downie conferred with RPM Pike regarding this alternative.

**November 24, 1987**

The public meeting discussed 11/5/87 was conducted in Myerstown and hosted by OPA Miller. The meeting was attended by approximately 45 residents, a local television station, and a local radio station.

**November 25, 1987**

In a teleconference, Sr. OSC Downie, ATSDR McCurdy, PA DOH Gearhart, OPA Miller, ORC Ajl, RPM Pike, CRES Siftar, and TAT discussed the public health implications at the Whitmoyer Labs Site based on the analytical results. ATSDR recommended that some residents discontinue using their well water for drinking and cooking purposes, while other residents were to discontinue using their well water for any purpose. ATSDR also recommended that the air above the lagoon, around the vault, and in selected residential yards should be tested, and that fish from Tulpehocken Creek should be collected and tested for arsenic content.

**November 30, 1987**

Sr. OSC Downie notified ATSDR that the Sauters family was concerned that cows on their dairy farm were accumulating arsenic from consuming well water shown to contain elevated arsenic levels.

**December 4, 1987**

ATSDR McCurdy completed a draft health consultation memo and requested Sr. OSC Downie's review and comment. OSC Downie and OPA Miller began reviewing the ATSDR memo. OSC Downie also forwarded a copy of the draft funding request to CRES Siftar.

**December 10, 1987**

A planning meeting was held to resolve technical, public affairs, enforcement, and political issues. Participants included OPA Luffy and Miller, CRES Siftar, and EPA Congressional Affairs (CA) representative Rich Kampf. It was determined that the PRPs would be given until Thursday, 12/17/87, to commit to supplying bottled water to 19 residences and until 1/10/88 to commit to a permanent solution.

**December 11, 1987**

Via telephone, OPA Miller informed the affected residents of their well sample results and of EPA's plans for corrective action. CA Kampf informed Congressional contacts of EPA's forthcoming actions.

CRES Siftar contacted the PRPs to inform them of their options. Sr. OSC Downie informed PA DER, PA DOH, and Myerstown Borough of EPA's intentions.

**December 17, 1987**

Sr. OSC Downie updated PA DOH Gearhart of EPA activities and contacted PA DER concerning the use of the water at the P.J. Valves factory, considering the high level of 1,1,1-trichloroethane in the water.

The funding request was approved by the Regional Administrator for \$782,455. Upon notification of approval, Sr. OSC Downie directed ERCS to begin providing bottled water to affected residences. ERCS subcontracted Blue Mountain Spring Water to supply the bottled water.

**December 18, 1987**

Sr. OSC Downie determined that the removal of the vault contents should be combined with the water supply action. RPM Pike indicated that the removal of the vault contents would be consistent with long-term remedial actions at the site.

**December 22, 1987**

ERCS installed carbon filtration systems at the Harnish and Gible residences, as well as a third residence. Post carbon filter samples were obtained.

Sr. OSC Downie noted that the water pipe providing the Kreider family water supply ran for approximately 1000 feet through the Whitmoyer Labs buildings. As a precautionary measure, Sr. OSC Downie instructed ERCS to provide bottled water to the Kreider residence.

TAT performed arsine gas sampling both on and off site. TAT also collected soil gas samples from the lagoon on site and at the Swanger residence at depths of five feet using steel tubes and a vacuum pump. The samples were shipped for analysis.

**December 24, 1987**

The local NBC Network News crew was on site to interview Sr. OSC Downie.

**January 11, 1988**

OPA Sinclair conducted a public meeting to update concerned citizens of current EPA and PA DER actions. The meeting was attended by local news media and approximately 80 residents.

The OSC directed ERCS to obtain bids from qualified engineers for designs to extend existing water lines.

**January 28, 1988**

Sr. OSC Downie met with Myerstown Borough Manager Ed Treat, PA DER Curry, ERCS engineer, and ERCS to determine the scope of work for the proposed water line extension.

**January 29, 1988**

Sr. OSC Downie arranged to meet with ERT Zownir, RPM Pike, PA DER Kozlovsky, NUS Trepanoski, and TAT to discuss options for treating vault contents.

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TAT collected water samples from the Harnish residence to be tested for the efficiency of the carbon filter installed in December 1987. A sample was also collected from the Hotzman's spring to determine if arsenic contamination was spreading through the groundwater table.

**February 1, 1988**

At this time, Whitmoyer Labs was involved in an ownership transfer from Dr. Lucero to Universal Process Equipment, Inc. Universal Process representative Kirsh provided useful background information regarding early operations at Whitmoyer Labs. Site operations were discontinued as Universal Process planned to salvage saleable materials from the facility.

**February 2, 1988**

Sr. OSC Downie met with Rohm & Haas representative Flemingloss, who provided EPA with background information, engineering drawings, and advice to assist EPA in the solution of the vault and other environmental problems surrounding the site.

MWA hired Spotts, Stevens & McCoy (SSM) for the preliminary water line design.

**February 3, 1988**

TAT collected soil, vault content, and water samples from the area around the vault to satisfy an ERT request.

Sr. OSC Downie and RPM Pike discussed RCRA problems at the site with EPA Arena.

**February 4, 1988**

Three water samples were collected from Tulpehocken Creek and were shipped to CLP lab Chemtech for total arsenic analysis.

**February 16, 1988**

Results of samples taken 2/3/88 were received, indicating that the vault may be leaking. The results were forwarded to ERT for review. ERT concluded that the vault was leaking and recommended removal action. A copy of the analytical results was also forwarded to ERM.

**February 24, 1988**

Sr. OSC Downie and ERT Zownir received copies of the preliminary engineering study which estimated the total project cost to extend the water line would be \$1,269,000. Implementation of the design could begin as early as March 1988.

**February 25, 1988**

Sr. OSC Downie was informed that funds previously approved for this project and other Region III projects were not available due to funding constraints. Additional water line design work ceased pending funding.

**February 26, 1988**

Sr. OSC Downie began drafting the \$2-million exemption request for the vault, based on the most recent vault analytical data and ERT recommendations.

**February 29, 1988**

OPA Sinclair met with Myerstown Borough Manager and local residents to update them on site status.

**March 2, 1988**

TAT collected surface samples from Tulpehocken Creek and from swimming pools at two residences.

**March 4, 1988**

The first draft of the \$2-million exemption was prepared and distributed to CRES, Remedial and EPA HQ for review and comment.

**March 17, 1988**

Sr. OSC Downie, ERT Zownir, OPA Sinclair, REAC, and TAT met with SSM Keefer to discuss possible alterations to the water line extension. The TAT engineer calculated that a less costly system could be installed and still meet state and local requirements.

**March 29, 1988**

A meeting was held in Myerstown to discuss whether or not MWA would accept responsibility/ownership of the water line extension. MWA indicated they would not accept responsibility because the proposed design did not meet water authority specifications. Jackson Township agreed to accept ownership of the water line extension and maintain it because the affected residences were located in both Myerstown Borough and Jackson Township. A letter of intent would be provided to the OSC stating same. Also, an agreement would need to be formalized with MWA as they are the owners of the existing water line.

**April 27, 1988**

PRPs Rohm & Haas and Beecham showed interest in taking over vault removal. Sr. OSC Downie discussed vault removal with Rohm & Haas Schnable, who indicated that Rohm & Haas had engaged Chemical Waste Management, Inc., to perform a preliminary investigation into vault removal.

**April 28, 1988**

Chem Waste obtained coring from the vault to determine vault contents consistency.

**May 5, 1988**

EPA continued to provide bottled water and maintain carbon filter systems. TAT collected water samples from residences with carbon filters to test their efficiency in removing VOCs.

**May 16, 1988**

Sr. OSC Downie and OPA Sinclair conducted a teleconference with an aide to U.S. Senator Heinz (PA) concerning the delay in construction of the water line extension.



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**May 23, 1988**

TAT completed a detailed cost justification/estimate of \$783,000 for a water line that met with Pennsylvania specifications and did not provide for future development. MWA Karsnitz reiterated the intent of MWA to refuse to maintain the EPA-installed water line.

**June 17, 1988**

Analytical results from 5/5/88 sampling were received. Slight VOC contamination was indicated in a few of the wells; however, the carbon filter systems were absorbing most of the contamination to below EPA action levels.

**June 20, 1988**

Water line installation remained on hold as EPA awaited the Jackson Township letter of intent as promised in 3/29/88 meeting. The final design and installation of the water line could not proceed without this letter.

**July 7, 1988**

During a public meeting, RPM Pike discussed the Remedial workplan and OPA Sinclair handled questions regarding the water line installation.

**August 12, 1988**

Sr. OSC Downie and OPA Sinclair contacted Myerstown Borough Manager Treat and were informed that the Borough Solicitor had revised the agreement document drawn up by ORC Early and that the document would be available for EPA review by 9/1/88.

**August 15, 1988**

Sr. OSC Downie and TAT met with RPM Pike, PA DER, and Remedial contractor NUS, who provided a partial inventory list of the drummed wastes. The OSC and TAT then performed an emergency assessment of drummed wastes and the laboratories on site per request of RPM Pike.

**August 16, 1988**

ERS Chief Jarvela and Removal Response Section (RRS) Chief Kleeman toured the site and discussed possible options for handling wastes, and for funding and enforcement strategies.

Emergency assessment results indicated the drummed wastes on site were extremely hazardous, as they contained highly toxic and shock-sensitive materials.

**August 23, 1988**

The additional funding request, revised to request less than \$2 million, was submitted to the Regional concurrence chain. Funding would be used to address lab waste and an estimated 800 drums.

The Remedial Program initiated 24-hour security at the site.

A meeting was held between RPM Pike and Myerwhit Corporation (previously Universal Process) representative King to discuss their abandonment of the facility and its surrender to EPA. Specific items discussed included:

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- 1) Mr. King stated that there were 30 drums of hydrochloric acid (HCl) and waste HCl wash water in building #8 that would be disposed of by Myerwhit within the next two weeks.
- 2) Although Myerwhit had abandoned the site, Mr. King stated they would still reserve the right to remove additional equipment; i.e., boiler system and storage silo system.

**September 6, 1988**

Sr. OSC Downie received a letter from MWA attorney Sandoe regarding the agreement for the water line extension provided by EPA, stating that it appeared in principle to be acceptable.

**September 13, 1988**

Sr. OSC Downie directed ERCS to arrange for the changing of carbon filters at the three residences where carbon systems had been installed by EPA.

**September 15, 1988**

Sr. OSC Downie held a teleconference with EPA HQ Stone to request guidance on compliance with applicable and appropriate regulations. In general, it was necessary to comply with substance aspects of RCRA and other regulations when EPA conducted drum stabilization and staging activities.

The OSC received the agreement from MWA attorney Sandoe and forwarded copies to ORC Early and Ajl.

**September 20, 1988**

MWA attorney Sandoe submitted a revised draft water line extension agreement to Sr. OSC Downie, who forwarded copies to ORC Ajl for review.

**September 21, 1988**

The additional funding request for \$1,125,491 was signed by the Regional Administrator, bringing the project ceiling to \$1,907,946.

Sr. OSC Downie held a teleconference with MWA attorney Sandoe regarding the draft water line extension agreement. EPA was unable to concur with the draft agreement and would incorporate necessary adjustments to finalize the agreement as soon as possible.

NUS provided the OSC with a list of suspected wastes contained in drums staged on site that were marked with large spray paint numbers. Sr. OSC Downie directed TAT to forward the information to RM O'Hara. Memos from NUS outlining the potential shock-sensitive drums containing ethers were also included.

**October 5, 1988**

Sr. OSC Downie forwarded information to TAT and ERCS regarding the volume of wastewater in the sump pit and the tank car (#T9). The OSC directed ERCS to begin disposal analysis of the remaining wastewater and to solicit bids for the disposal of two one-pound bottles of picric acid. In addition, a copy of the inventory list of materials on site was forwarded to ERCS.

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**October 14, 1988**

Sr. OSC Downie received a large package of disposal information that NUS had put together from old company records. The former operators of the plant had submitted waste product record information to Waste Conversion and in response had received price quotes for T&D. It was considered possible that the old data could still be used if an audit/statistical sampling of 10 to 20 per cent of the drums demonstrated that the old records were reliable.

**October 19, 1988**

Sr. OSC Downie directed TAT to develop a cost analysis of bulking vs. overpacking for disposal of drum wastes. ERCS completed a tentative scope of work for addressing the materials on site.

**October 20, 1988**

Sr. OSC Downie was informed by NUS Trepanowski that 45 drums, each containing 50 kg sodium chlorate, were discovered on the plant property, in deteriorating condition.

**October 27, 1988**

NUS and their well drilling subcontractors continued to drill monitoring wells at the site. Remedial awarded a contract to Waste Conversion for the removal of laboratory chemicals.

The command post trailer arrived site in preparation to begin drum handling/disposal operations.

**October 28, 1988**

CRES Siftar stressed the importance of documenting all drum markings for cost recovery purposes; in particular, drums from a Rohm & Haas perfume process and drums marked "prior RCRA."

**October 31, 1988**

EPA, TAT and ERCS mobilized to the site at 1200 hours to begin drum removal operations.

**November 1, 1988**

Sr. OSC Downie, ERT and TAT met with Lebanon County EMA to discuss contingency planning in the event of a release on site.

**November 2, 1988**

ERCS ordered a weather station and wind socks for weather monitoring during drum handling operations.

Due to the hazardous conditions that existed inside buildings, stringent safety measures were implemented. Sr. OSC Downie directed ERCS to sample all drums and send the samples to the OHM laboratory in Findlay, OH, for bulk/compatibility testing. ERCS chemists worked with existing inventory from company records to separate drums into their respective waste streams. Eleven samples were taken from outside drums that the PRP inventory identified as containing waste aniline sludge. TAT performed air monitoring during drum sampling operations.

NUS continued drilling monitoring wells for the Remedial investigation.

**November 3, 1988**

ERCS marked all drums containing unknowns. An additional 121 samples were collected from drums in the parking lot area for a total of 132 samples to date.

ERCS mobilized a forklift with a blast shield for moving stacked drums on pallets and potential shock-sensitive drums to be staged at a more isolated area on site.

Sr. OSC Downie and TAT conducted an inspection of several buildings to determine if there were any other emergency hazards that had not been addressed in the current scope of work. OSC and TAT observed only one 55-gallon drum, on the second floor of building #8, marked as containing hydrazine.

**November 4, 1988**

ERCS began sampling drums in building #8. An additional 95 samples were collected for a total of 227 to date. All drums in the parking lot had been sampled, with the exception of the one that was suspected to be shock-sensitive.

TAT installed a wind speed indicator and wind socks on the weather station.

FAO Messimer arrived on site to assist with cost tracking and to initiate RCMS.

**November 5, 1988**

An additional 152 samples were collected for a total of 379 to date. Building #8 drum sampling was completed with the exception of drums that were potentially shock-sensitive or contained unknowns. Unstacking and staging of drums in building #7 were completed and sampling commenced.

Sr. OSC Downie noted approximately 10 additional drums that he felt should not be left for Remedial because they contained PCE, waste aniline and arsenic sludge, waste PCE from oil burner cleaning, and unknowns.

**November 6, 1988**

An additional 235 samples were collected for a total of 614 to date. TAT performed downwind air monitoring during sampling operations; one unit was detected on the OVA.

Remote opening of unknowns and potential shock-sensitives commenced.

Sr. OSC Downie began preparing the one-year exemption and change in scope of work request as the SARA one-year statutory limit date of 12/17/88 approached.

**November 7, 1988**

ERCS removed several drums that were found in buildings following an inspection by Sr. OSC Downie. The drums were staged and sampled.

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ERCS reacted an estimated five pounds of sodium metal that was found in building #8. ERCS began securing drums in preparation for demobilization while awaiting compatibility/bulk test results.

NUS continued drilling monitoring wells and collecting concrete samples from buildings.

**November 8, 1988**

ERCS sampled 11 drums that were overlooked during initial drum sampling and 20 drums believed to contain waste oil.

Picric acid treatment was completed in accordance with the special operations work plan.

**November 9, 1988**

ERCS secured all drum staging areas and marked restricted areas with bannerguard.

After a site tour was conducted for Rohm & Haas representatives and attorneys, the site was demobilized.

**November 10, 1988**

Drum samples were delivered to the OHM laboratory in Findlay for compatibility/bulk testing.

**November 14, 1988**

Sr. OSC Downie informed Mr. Deck of Jackson Township that EPA would finance the water line to provide public water to affected residences, providing the Township picked up the cost of fire hydrant water and future expansion.

**November 16, 1988**

Sr. OSC Downie sent a data package outlining the proposed water line construction to Jackson Township for review by their water study group.

The one-year exemption request was submitted to the Regional concurrence chain.

**November 29, 1988**

TAT collected tap, mid-filter, and well water samples from the three residences with carbon filter systems. Samples were delivered to Wastex Labs, PA, for VOC analysis.

CRES Siftar advised the OSC that Myerwhit may wish to remove the drums that contained HCl wash water, and that she would continue to negotiate with Myerwhit's attorney.

**December 7, 1988**

ERCS informed Sr. OSC Downie that disposal arrangements had been made at Waste Conversion for 277 of the estimated 800 drums on site.

There were 18 waste streams identified at the site. Sr. OSC Downie determined that all the drums in poor condition would be overpacked.

**December 12, 1988**

ERCS mobilized a CAT 215 backhoe and drum grappler, as well as 218 drum overpacks.

**December 13, 1988**

ERCS began drum overpacking operations; 44 drums were overpacked this date. TAT provided air monitoring during drum overpacking operations.

TAT entered building #8 to identify all drums suspected to contain HCl wash water and left by Myerwhit, who had informed CRES that there were only four of these drums; however, the TAT survey, using pH paper, identified 25 drums with pH of 0 to 1.

In a public meeting, Sr. OSC Downie and TAT met with Jackson Township officials to discuss EPA's position with respect to the water line construction. Township officials were in the process of developing a "master plan" for water development. EPA was unable to fund future developments and fire hydrant water, and was investigating other means for funding these improvements.

Sr. OSC Downie continued to consult with ERT and the RPM.

**December 14, 1988**

ERCS overpacked 45 drums for a total of 89 to date.

TAT investigated the 55-gallon polyethylene drum labeled "Olin Chemical Corp., 35% Hydrazine Solution" located on the second floor of building #8. After the drum was opened, a reading of 10 ppm was obtained over the drum bung. Sr. OSC Downie contacted the Olin Corporation, who refused to accept the drum; however, the OSC was informed that the hydrazine could be safely neutralized with sodium hypochloride.

A sump area was tested with Drager tubes specifically for aniline and arsenic compounds. Results indicated both types of compounds were present in the sump.

A small, abandoned residence situated on the southwestern corner of the Whitmoyer property was found to contain empty fiber drums labeled "IOFEC COMPLEX," a cleaning disinfectant.

Sr. OSC Downie continued to communicate with Myerwhit regarding the quantity of their drums containing HCl waste water.

**December 15, 1988**

ERCS overpacked 73 drums for a total of 162 to date.

TAT continued site reconnaissance by inspecting building #s 1, 3, 5, 6 and 7. No adverse conditions were observed.

Myerwhit informed Sr. OSC Downie that they would like to remove the grain silo on building #5. The OSC felt that, due to safety considerations, it could not be dismantled during EPA removal activities.

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Due to the significant increase in bids from Waste Conversion over quotes obtained in 1987 by ERT, Sr. OSC Downie directed ERCS to obtain additional bids in an effort to determine the most cost-effective means of disposal.

**December 16, 1988**

ERCS overpacked 88 drums for a total of 250 to date.

Sr. OSC Downie and TAT performed a site survey and evaluated conditions around the tank of low-level, arsenic-contaminated wastes. There was insufficient freeboard in the dike area below the tank due to rainwater accumulation. Sr. OSC Downie directed TAT to sample both the tank and water in the dike. The water in the dike area was to be pumped off into a holding tank to await analytical results.

After evaluating the analytical results of water samples collected on 11/29/88, slight breakthrough in the filter systems was indicated. While the levels of contamination were below ATSDR guidelines for exposure while showering, Sr. OSC Downie directed ERCS to rebed the filters as soon as possible.

Sr. OSC Downie was informed by Western Response Section Chief Kleeman that the one-year exemption and change in scope of work had been signed by the RA.

Sr. OSC Downie contacted PA DER Noreen Chamberlain and informed her of plans for T&D of the hydrazine after treatment.

The site continued to receive substantial media attention.

**December 17, 1988**

ERCS overpacked 130 drums for a total of 380 to date.

Sr. OSC Downie remained in contact with MWA regarding the water line extension.

**December 18, 1988**

ERCS overpacked 28 drums for a total of 408 to date. TAT continued to provide air monitoring during overpacking operations.

**December 19, 1988**

ERCS overpacked 40 drums for a total of 448 to date. TAT continued air monitoring.

**December 20, 1988**

ERCS completed overpacking operations for a total of 608 drums overpacked. ERCS began collecting and staging empty drums.

Sr. OSC Downie received the procedure for neutralizing the hydrazine from Olin Corporation. OSC Downie briefed RPM Pike on site activities.

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**December 21, 1988**

ERCS subcontractor rebedded the carbon filtration systems in the three residences. ERCS began decontaminating equipment in preparation for temporary demobilization to await analytical results and T&D arrangements for overpacked drums.

OPA Sinclair held a teleconference with a local reporter. The reporter's main concern was about the schedule for actually transporting the drums off the site.

**December 22, 1988**

Sr. OSC Downie continued water line negotiations.

TAT and ERCS pumped water from the arsenic waste tank dike into a 5,000-gallon tank truck rented from Weavertown Transport to await analytical results and disposal arrangements.

**January 31, 1989**

Activities since December 22, 1988, were as follows: The ROD was in the process of being developed to address bulk waste in storage tanks and liquid waste products. CRES efforts to contact PRPs for drums on site continued. Local media interest continued to be high. EPA and MWA continued negotiations as they were yet unable to agree upon terms for the water line extension. Sr. OSC Downie updated RPM Pike on site activities.

**February 7 to 9, 1989**

TAT and ERCS collected additional samples from staged drums for disposal analysis and sent them to disposal facilities.

**February 13, 1989**

During the time since January 31, 1989, negotiations for the water line extension continued.

**March 8, 1989**

OSC, TAT and ERCS remobilized to the site.

A Myerwhit representative inspected the HCl drums; 6 of the 25 drums were identified as containing acid tank rinse which Myerwhit indicated they had generated.

ERCS began segregating drums in specific waste streams.

The 5,000 gallon-tanker truck containing liquid from the dike of arsenic waste was transported for treatment and disposal to Frontier Chemical Waste Process, Inc., in New York.

Sr. OSC Downie, OPA Sinclair and TAT attended a meeting with Jackson Township concerning water line negotiations. Cost sharing for a pumping station was brought up as a possibility.

**March 9, 1989**

ERCS continued to segregate drums by waste stream. Myerwhit representatives removed 12 drums containing HCl and HCl wastewater. OSC updated RPM on site activities.



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**March 10, 1989**

ERCS completed segregating drums by waste stream and began labeling the drums for disposal. ERCS loaded 123 drums of base/neutral liquids for T&D at Caldwell Systems, Lenoir, NC, for treatment and disposal.

A press conference attended by local TV and radio personnel was held on site. Sr. OSC Downie updated state and local agencies on site activities.

**March 13, 1989**

The 55-gallon drum of 35% hydrazine solution was neutralized on site with the assistance of ERCS Senior Chemist Herzig. ERCS Chemist Herzig also identified several potentially shock-sensitive materials remaining in the labs. ERCS continued labeling drums by waste stream for disposal.

**March 14, 1989**

ERCS Chemist Herzig identified several extremely hazardous chemicals in the lab, which were segregated in each lab and bannerguarded to await disposal arrangements. ERCS loaded 102 drums of base/neutral liquids and oxidizing acid liquids for transport to Caldwell Systems for treatment and disposal. Remaining quantities of hydrazine were neutralized in the reaction chamber/vessel. A small quantity of potassium metal that was discovered in the lab was also neutralized on site.

One container of benzoyl peroxide (potentially shock-sensitive) was remotely opened via the ERT low-mass, high-velocity method. The resultant material was mixed with water, rendering it inactive, to allow Remedial to labpack it for disposal.

**March 15, 1989**

ERCS loaded 123 drums of base/neutral liquids, oxidizing liquids, and sulfide liquids for transport to Caldwell Systems for treatment and disposal. Of the 200 drums that had been staged and believed empty, several were found to contain waste material. These drums were segregated and sampled for disposal.

**March 16, 1989**

An ERCS explosives specialist was on site to prepare a workplan for the detonation of the extremely hazardous chemicals that were found in the labs. ERCS completed crushing and staging empty drums, securing them with visqueen.

NUS and a Waste Conversion representative inspected the lab, for future labpacking.

**March 22, 1989**

Sr. OSC Downie was informed by ERCS that disposal approval of acid solids, organic liquids and organic solids was received from Rollins, Inc., Newark, NJ.

**March 24, 1989**

T&D continued with the departure of one truck of 49 drums containing acid solids, organic liquids, and organic solids to Rollins.

**April 13, 1989**

Sr. OSC Downie drafted a letter to MWA regarding EPA's position on unresolved matters in implementing the water line extension. The letter also stated that EPA was fully prepared to initiate an engineering design in order to provide municipal water to the three most critically affected residences.

**April 17, 1989**

Sr. OSC Downie's letter to MWA was mailed to MWA attorney Sandoe.

**April 18, 1989**

One truck carrying 52 drums of base/neutral solids and 4 drums containing peroxide liquids departed for Ensco, Inc., in Arkansas for incineration.

Sr. OSC Downie remained in contact with MWA concerning the water line extension.

**April 19, 1989**

Sr. OSC Downie contacted Myerstown Borough Manager Treat to obtain both the old and new regulations for public water lines. The new regulations would not apply retroactively to the water line that would be installed by EPA. Sr. OSC Downie prepared a letter to MWA regarding the discharge of the neutralized hydrazine water that included a copy of a letter from PA DER indicating that the discharge of this water was acceptable to PA DER without a permit. However, final permission had to be obtained from the wastewater treatment plant manager. Sr. OSC Downie indicated to MWA that EPA could reimburse the treatment facility for costs incurred due to this water discharge.

**April 20, 1989**

ERCS reported to Sr. OSC Downie that a shipment of waste that went to Rollins on 3/24/89 created a pink color in the plume from the incineration process. The pink color was attributed to the probability that a high concentration of iodine was in one of the drums, which was not a major problem. ERCS performed a QA/QC inspection of the remaining drums to ensure this situation would not recur.

**April 26, 1989**

A truck carrying 7 drums of EP Toxic substances and 5 drums of oxidizing acid liquid departed for Caldwell Systems.

**June 5, 1989**

T&D continued with the repacking of 40 10-gallon pails of sodium chlorite into 9 poly overpack drums for disposal. The pails were in extremely poor condition.

Samples for disposal analysis were collected and screened by the ERCS chemist. ERCS performed QA/QC of drums to ensure each waste stream was represented in samples collected.

**June 6, 1989**

ERCS began staging additional drums discovered during labpacking operations by NUS.

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(E-8)

**June 7, 1989**

ERCS initiated segregation of liquids and solids from "almost empty" drums that were found on 3/15/89 during the crushing of the large drums that were previously believed to be empty.

**June 8, 1989**

ERCS completed sampling of 30 newly discovered drums (6/6/89). Crushing of empty drums generated during NUS labpacking operations began. Material was found in some of the suspected empty drums during crushing. These drums would be sampled and overpacked.

Sr. OSC Downie updated NUS on removal actions and continued correspondence with state, local, and other EPA agencies in an effort to obtain a permit to discharge wastewater that resulted from the on-site hydrazine treatment process.

**June 9, 1989**

Sr. OSC Downie contacted RPM Pike concerning the ROD for bulking the liquid waste in storage tanks and process lines.

**June 12, 1989**

TAT and ERCS continued T&D of materials staged on site. Drum crushing and staging of empty drums from Remedial labpacking efforts continued.

Due to weather conditions, ERCS secured arsenic/aniline water in the sump with visqueen to prevent the additional accumulation of rainwater before disposal could be implemented.

Sr. OSC Downie maintained contact with Myerstown Borough Manager Treat regarding discharge permit for wastewater from hydrazine treatment process.

**June 13, 1989**

The arsenic/aniline water in the sump was pumped out and transported to Frontier Chemical for disposal. Construction of a shelter over the sump was implemented to prevent future rainwater from mixing with the remaining sludge that was left to be addressed by Remedial.

Two jars of picric acid that were left behind by NUS during Remedial labpacking operations were neutralized on site. Also treated were four 8-ounce bottles of nitromethane and a one-gallon can of petroleum ether. ERCS sampled drums discovered on 3/15/89 for compatibility screening by the ERCS chemist. Compatible materials were to be bulked.

**June 14, 1989**

Four bottles from the lab, containing water-reactive chemicals, were treated on site by slowly emptying the contents into water. The resulting acid solution was bulked with the acid liquid waste stream.

Drum sampling operations were completed; an estimated 250 drums were sampled. Many of the drums contained small amounts of material, and compatible materials were bulked.

**June 16, 1989**

Two containers of uranium acetate and two containers of cobalt uranium acetate solution were packaged for disposal. Overpacking and bulking of drums was completed. An additional 91 drums of waste were generated and staged on site to await T&D approval. Other wastes that remained included waste in tanks, wastes in process lines, and wastes labpacked by NUS. Waste profiles for PPE and crushed empty drums were sent for disposal approval.

The shed over the sump was completed. Floor drains in the arsenicals process building leading to the sump were blocked.

**June 22, 1989**

Sr. OSC Downie received a copy of a letter sent to U.S. Senator Heinz (PA) and Congressman Walker from the MWA expressing MWA's displeasure with how the water line extension negotiations were being handled by EPA representatives. Sr. OSC Downie discussed this with Western Response Section Chief Kleeman, and it was verified that the OSC was following the protocol outlined for water line extensions at Superfund sites.

**June 23, 1989**

Sr. OSC Downie contacted Mr. Miller, Director of CEMA, to inform him of planned remote opening of potential shock-sensitives and the burning of phosphorous on site.

**June 25, 1989**

ERCS loaded 56 waste flammable liquid drums for T&D at ThermalKEM, Rock Hill, SC.

**June 26, 1989**

ERCS loaded 128 additional waste flammable liquid drums for T&D at ThermalKEM.

Construction of the bunker for remote opening of shock-sensitives began.

**June 27, 1989**

One drum labeled as air-reactive (a very strong base) and six drums of base/neutral liquids were transported to Caldwell Systems. One pound of yellow phosphorous and half a pound of red phosphorous were disposed of on site by the ERCS chemist by means of controlled burn.

The range for remote opening operations was prepared. The acetous perchloric acid and 2,4-dinitro-phenyl-hydrazine were contained and neutralized with sodium hydroxide and pumped into the wastewater tank on site. Sr. OSC Downie contacted CEMA and updated them on the progress with treating the shock-sensitive materials.

Sr. OSC Downie remained in close contact with MWA and Jackson Township in order to expedite the scaled-up design criteria for the water line extension.

**June 29, 1989**

The truck that was shipped to ThermalKEM on 6/27/89 was refused by the facility and returned to the site due to the fuming of several drums upon opening. Another truck, containing one

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(Red)

drum with a pH above ThermalKEM's permits, was also rejected. This drum was remanifested and transported to Caldwell Systems.

**June 30, 1989**

ERCS unloaded the returned truck and collected samples to be fingerprinted to verify that the wastes were reported accurately to ThermalKEM in the waste profiles.

**July 6, 1989**

RPM Pike and Sr. OSC Downie discussed the possibility of disposing of staged labpacked wastes under the Removal action rather than under the Remedial contract. Sr. OSC Downie obtained all pertinent information on the labpacked material and forwarded it to ERCS for review by their disposal coordinator.

**July 19, 1989**

The 14 drums of waste corrosive liquids were transported to Caldwell Systems for disposal. Sampling to verify the integrity of the carbon beds was conducted at the three residences where carbon filter systems were being maintained.

**August 15, 1989**

Analytical results of samples collected on 7/19/89 indicated the carbon beds would require rebedding with new carbon in the near future.

**August 28, 1989**

Sr. OSC Downie briefed OPA Yates regarding on-site treatment of shock-sensitive and reactive materials.

**August 29, 1989**

ERCS, monitored by FAO Messimer and TAT, loaded ten truckloads of crushed drums for T&D at GSX Services in South Carolina. The waste was listed as non-RCRA/TSCA, DOT-regulated solids, but was still to be disposed of in the hazardous waste landfill.

**August 30, 1989**

Five additional trucks loaded with crushed, empty drums were transported to GSX, completing removal of the entire pile, estimated at 1000 cubic yards, or approximately 4000 drums.

Sr. OSC Downie instructed TAT to sample the water in the sump, as well as in the basement of a nearby building, for analysis for arsenic and aniline. Earlier efforts to prevent rainwater accumulating in the sump proved unsuccessful.

**September 21, 1989**

EPA Regional Management, Sr. OSC Downie, and OPA met with MWA and Jackson Township Supervisors regarding the extension of the Myerstown public water system. EPA explained that they could only supply potable water to affected residences, not water for fire protection. It was determined that two final designs would be prepared. If Jackson Township found the fire flow design acceptable, they would be responsible for the additional cost over the plan without fire flow.

**September 27, 1989**

Carbon filtration systems at affected residences were rebudded with new carbon.

**October 10, 1989**

The TAT engineer met with the Jackson Township consulting engineer regarding the water line design that included the fire flow. There were still specifications needed prior to finalization of design plans, which would be provided by the Township engineer after further consultation with MWA. The TAT engineer would finalize the plans and prepare a package for requests for bids for the final design.

**October 12, 1989**

Waste profiles for the drums discovered during Remedial labpacking were signed by the OSC and sent out for disposal approvals.

NUS performed the monthly routine inspection and made the following observations:

- 1) The large tank containing wastewater tainted with arsenic, located in the diked area near Nesquehoning Creek, was leaking slightly at a fitting.
- 2) In building #2, tank #T14, labeled aniline water, was leaking slightly and dripping onto the floor.
- 3) The sump outside of the arsenical process building was beginning to fill again.

Sr. OSC Downie directed TAT to perform a site inspection, paying close attention to NUS's observations.

**October 13, 1989**

TAT performed a site inspection and verified the conditions observed by NUS:

- 1) The water tank was leaking at a rate of one drop every 30 seconds into the diked area below the tank.
- 2) Tank #T14 in building #2 was leaking at a rate of one drop every 5 to 10 seconds. The evaporation rate was catching up to the drip rate after a puddle of about 12 inches in diameter was formed.

It should be noted that tank and process lines wastes were under the planned scope of work to be handled by the Remedial Branch.

**October 17, 1989**

A 5000-gallon tanker pumped wastewater from the sump and transported it to Frontier Chemical for treatment.

**November 8, 1989**

Township Supervisors held a meeting attended by the Township engineer. Sr. OSC Downie and TAT participated via teleconference. The outcome of the meeting was as follows:

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06/16/89  
JBC

- 1) The Township would send a letter to the OSC containing the necessary criteria for the water line extension.
- 2) Upon receipt, the OSC had 90 days to provide two completed final designs: one design for what EPA is authorized to provide under CERCLA and an upscaled design including fire flow.

**November 9, 1989**

Sr. OSC Downie approved the necessary justification for the sole source disposal of the labpacked material staged on site by NUS. The material would be removed by Waste Conversion and disposed of at a CERCLA-approved facility.

**November 22, 1989**

One truck containing the material labpacked by NUS departed for Waste Conversion in Pennsylvania.

**November 27, 1989**

One truck carrying 33 drums of hazardous waste solid, 11 drums of flammable liquid, and 5 drums of hazardous waste liquid, a duplicate of the load rejected by ThermalKEM on 6/27/89, departed for ThermalKEM. After review and QA/QC of waste profiles for this load, it was verified that the waste was profiled correctly and should be accepted.

**November 29, 1989**

A second truckload of labpacked material departed for Waste Conversion, leaving one truckload on site.

Sr. OSC Downie and TAT met with MWA Chairman Karsnitz and Myerstown Borough Manager Treat due to the pullout of potential funds from P.J. Valves (cost sharing discussed 3/8/89). It became possible that MWA may change their involvement in the water line extension.

**December 6, 1989**

The third and final load of material labpacked by NUS was shipped to Waste Conversion.

**December 7, 1989**

NUS notified Sr. OSC Downie that, during a site inspection, a small leak was noted in a tank trailer containing approximately 4000 gallons of arsenic-contaminated wastewater with a concentration of 24 ppm. The tanker was to have been addressed by Remedial, but due to the sudden emergency nature of the situation, the OSC determined it would be in the best interest of human health and the environment to address the tank as part of the Removal action. TAT mitigated the immediate threat by placing a temporary patch made of a water-based cement ("Plug-a-dike") over the leak. A small berm was constructed in the event the temporary patch failed.

**December 8, 1989**

Sr. OSC Downie directed ERCS to make immediate disposal arrangements for the arsenic-contaminated wastewater in the leaking tank trailer.

**December 12, 1989**

The contents of the leaking tank trailer were delivered off site to CyanoKEM, Detroit, MI, for disposal.

Media interest in site activities remained high.

**January 15, 1990**

During a routine monthly inspection, NUS observed a small leak in building #6 in tank #T12, believed to contain arsenic/ aniline wastewater.

**January 16, 1990**

TAT plugged tank #T12 using "Plug-a-dike" patching material.

**January 17, 1990**

EPA, TAT and ERCS were on site to pump and dispose of the contaminated water in the sump.

**January 19, 1990**

Sr. OSC Downie received the necessary design criteria and agreement from MWA to finalize the two plans for the water line extension, beginning the 90-day review time limit.

**February 5, 1990**

The TAT engineer was on site to inspect the areas to which the water line would be extended. A small drip was observed behind building #9 in an old tank truck that contained wastewater with 50 ppm of arsenic. At this time, the drip was being contained in a drum beneath it.

**February 8, 1990**

ERCS informed the OSC that disposal approval for the remaining drums on site had been received, but they were currently waiting for a slot at the disposal facility.

**February 9, 1990**

TAT patched the leak in the tank truck noted in the 2/5/90 entry. The accumulated water in the drum beneath the truck was placed back into the truck.

**March 20, 1990**

NUS reported to EPA that tank #T12 had again begun to leak. The OSC directed TAT to repair the tank.

**March 22, 1990**

TAT repaired tank #T12 by removing old "Plug-a-dike" and applying new.

**March 23, 1990**

TAT inspected the tanker trailer behind building #9 and found it to be leaking again. TAT made repairs by installing three sheet metal screws with rubber washers and roofing tar in the rusted holes.



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The transporter (Buffalo Fuel, Inc.) and two Gilarde personnel were on site to remove drums; however, only 21 were transported off site to CycleChem, Inc., in Elizabeth, NJ.

**March 26, 1990**

RPM Deborah Dewsbury indicated that final disposal of the remaining wastes would occur between June and September 1990. NUS would remove the hydrazine wastewater during the final disposal phase.

**April 3, 1990**

At the direction of Sr. OSC Downie, TAT met with OHM design engineers to inspect the route where the water supply system was to be installed to the affected residences. Sr. OSC Downie continued to maintain contact with MWA and Jackson Township.

**April 24, 1990**

Sr. OSC Downie and TAT performed a site inspection and toured the drum staging area where storage tanks were located to ensure that no leaks had developed.

A public meeting was held; local residents who attended were informed that the contents of all of the tanks and bulk liquids on site would be disposed of in the near future.

**June 1, 1990**

Per OSC direction, TAT performed a site inspection, during which a leak was observed in tank #T12.

**June 5, 1990**

TAT secured the leak in tank #T12 with "Plug-a-dike."

**June 22, 1990**

Sr. OSC Downie provided U.S. Senator Heinz's office with a site update.

**June 23, 1990**

Sr. OSC Downie directed TAT to monitor the removal of drums from the site; 212 drums were transported off site. A roll-off was filled with non-hazardous solid waste and secured on site.

**June 26, 1990**

Sr. OSC Downie directed TAT to monitor drum removal operations.

**June 28, 1990**

Sr. OSC Downie and TAT monitored the removal of 212 drums: 150 empty, 37 waste corrosive liquid, 15 waste flammable liquid, 5 non-regulated liquid waste, 3 hazardous waste liquid, 1 non-regulated solid waste, and 1 hazardous waste solid.

Non-Destructive Laboratories removed low-level radioactive uranium acetate powder (a one-pound bottle and a one-and-a-half-pound bottle). Two one-liter bottles of cobalt uranium acetate solution were solidified prior to T&D.

**June 29, 1990**

The staged roll-off was transported off site.

TAT sampled three 55-gallon poly drums suspected of containing rainwater. The samples were sent to the OHM laboratory in Findlay, OH.

**July 3, 1990**

EPA began preparing an agreement with MWA for the water line extension.

The agreement between EPA and MWA for the water line extension was forwarded to ORC. Draft copies of an additional funding request and \$2-million exemption for installing the water line extension were submitted for concurrence at both Regional and EPA HQ offices to expedite approval.

**July 26, 1990**

TAT monitored T&D operations for six drums. Activities as described in the scope of work neared completion. Analytical results for three drums suspected to contain rainwater indicated high arsenic levels.

**August 17, 1990**

Sr. OSC Downie directed TAT to sample nine residences for volatile organics and arsenic as a result of a resident's inquiry into the frequency of the sampling performed in residences with filtration systems. The OSC informed this resident that previous analytical results showed the filters lasted approximately one year, and that the cost of sampling and analysis exceeded the cost of changing the filter. For this reason, the filters would be replaced on a six- to eight-month basis until the water line extensions were in place.

**August 23, 1990**

TAT collected water samples at the nine residences: three with filtration systems, one for background of the area, and five that were receiving bottled water and not scheduled for inclusion on the water line extensions.

**September 13, 1990**

Sr. OSC Downie signed the letter of agreement for the water line extensions with MWA after consulting with ORC Cardome and Removal Branch Chief Carney.

The additional funding request and \$2-million exemption for installing the water line extensions were approved by the Regional Administrator and forwarded to EPA HQ for concurrence.

EOSC Steuteville negotiated a consent order with PRPs for taking over the water line extension installation.

**September 27, 1990**

A consent order was signed by Smith Kline and Beecham, Inc., and Rohm & Haas to take over and complete the water line extensions.

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**September 28, 1990**

The consent order was signed by the Regional Administrator.

**October 1, 1990**

The analytical results from the 8/23/90 sampling showed the carbon filtration systems were performing as expected, with no breakthrough in VOCs at this time. The detection limit specified to the lab for arsenic analysis was 1 ppb, due to new 2 ppb action level for arsenic in drinking water, and this limit was not achieved. The OSC requested that the samples be reanalyzed to obtain the 1 ppb detection limit.

The OSC and TAT reviewed technical requirements for stream crossing permits received from PA DER.

**October 3, 1990**

A teleconference between Sr. OSC Downie, EOSC Steuteville, and OHM G. James was held to set up an orderly transfer of all water line engineering drawings, information, and permits application work.

Sr. OSC Downie directed ERCS to demobilize the command post within the next ten days, to change the carbon filter beds one last time, to continue providing bottled water until the water line extensions were completed, and to make final disposal arrangements for the drums staged on site.

TAT inspected the site to ensure bulk storage tanks and vessels were stable.

**October 18, 1990**

A meeting with EPA, TAT, PRPs, MWA, and Jackson Township was held to finalize the transfer of all water line information.

**October 19, 1990**

TAT monitored T&D of the last nine drums from the site. An inspection of building #2 was performed; all containers were stable.

**October 22, 1990**

Analytical results from reanalyzing for arsenic were received by TAT.

**May 7, 1991**

CERCLA-funded removal actions at this site were closed as of this date. The RPs, under the direction of EOSC Steuteville, were complying with administrative orders and accomplished recommended cleanup actions. EOSC Steuteville was made the OSC of record.

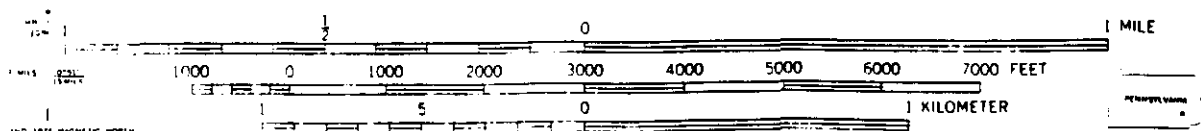
## **VII. DIFFICULTIES ENCOUNTERED AND RECOMMENDATIONS**

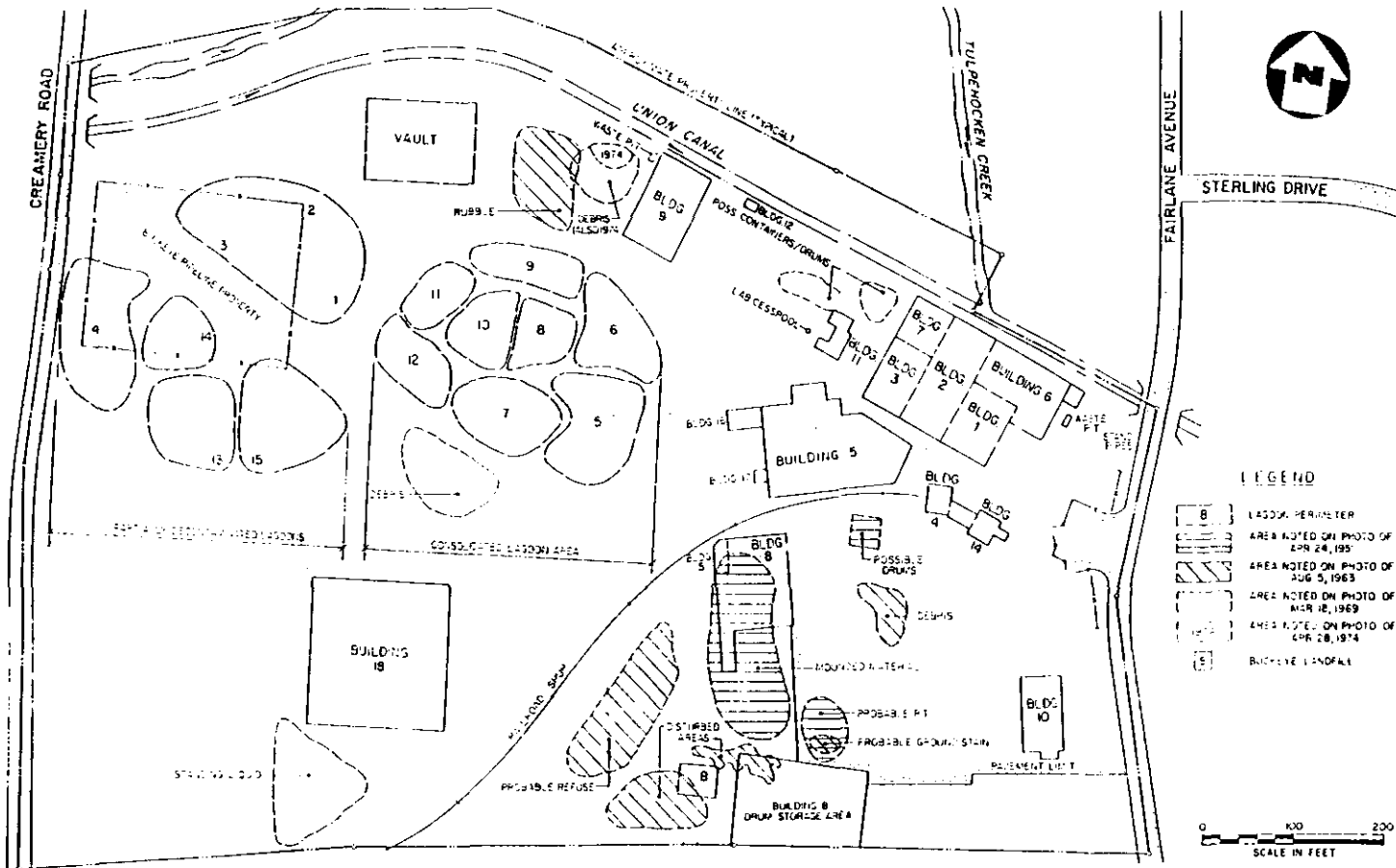
Although ultimately all of the removal actions proposed for the Whitmoyer Laboratories Site either were successfully completed using Superfund monies or were taken over by the RPs, several problems were encountered, nevertheless. One major problem was the amount of time taken to reach agreement with the Myerstown Water Authority over the water line extension. Agreement negotiations were complicated since they required coordination not only between the water authority and EPA, but also with Myerstown Borough, Jackson Township, and Lebanon County. The principal impediment to agreement, however, was conflict between the community's future development needs and restrictions on Superfund. Under Superfund, monies for the water line extension could be used only to meet the existing needs of affected residences for potable water; monies could not be expended to meet projected future needs. The water authority and Jackson Township officials were initially under the impression that EPA must construct a water line allowing for future development, improvements, and fire flow. To resolve the problem, EPA submitted two water line designs: one for potable water for existing residents only, and the other design for potable water, fire water, and future expansion. The water authority chose the second design and agreed to pay the difference in construction costs (See Appendix D, U.S. EPA/Myerstown Water Authority Extension Agreement). The Myerstown Water Authority further expanded the selected design into the system finally implemented by the RPs.

Disposal of hazardous substances generated at the site posed several problems. First, due to the highly toxic nature of arsenic and its compounds, extensive compatibility testing and research into disposal methods were required, and the OSC had to work carefully with the disposal industry to arrange for disposal. The testing, the research, and the negotiations with the industry caused the disposal phase of the project to be extended, leading to the second of the disposal-related problems - continued monitoring and maintenance of an old, industrial facility and of the hazardous wastes staged for removal. Tank leaks occurred several times during this phase. Eventually, effective disposal was obtained, and the substances were removed.

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## APPENDICES





## Whitmoyer Labs Site Sketch

Jackson Township, Lebanon County, Pennsylvania

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B. Funding Documentation

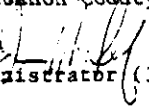
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: Justification for Approval of a Removal Action  
at the Whitmoyer Labs NPL Site,  
Myerstown, Lebanon County, Pennsylvania

DATE: DEC 17 1987

FROM: James M. Seif,   
Regional Administrator (3RA00)

TO: Dr. J. Winston Porter  
Assistant Administrator  
Solid Waste and Emergency Response (WH-562A)

ISSUE

The attached CERCLA Funding Request pertains to the Whitmoyer Labs NPL Site in Myerstown, Lebanon County, Pennsylvania.

Removal operations are necessary to eliminate the threat to public health and the environment posed by the contamination of local groundwater with arsenic at levels which exceed the  $10^{-4}$  cancer risk concentrations for drinking water.

Pursuant to the delegation of authority 14-1-A (9/24/87), amended by section 104 (e) of the Superfund Amendments and Reauthorization Act (SARA) of 1986, which authorized the Regional Administrator to approve CERCLA Removal actions with a total cost of less than \$2,000,000 and approve exemptions to the one year limit, I have approved the use of CERCLA Funds to control and stabilize this site.

Attachments: Sampling Maps of Arsenic and VOC Concentrations in  
Local Wells  
Analytical Results Summary Tables



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ORIGINAL  
(Red)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: CERCLA Funding Request for the  
Whitmoyer Labs NPL Site  
Myerstown, Lebanon County, Pennsylvania  
FROM: Jack R. Downie, On-Scene Coordinator  
Emergency Response Section (3HW22)  
TO: James M. Seif  
Regional Administrator (3RA00)  
THRU: Stephen R. Wassersug, Director  
Hazardous Waste Management Division (3HW00)

DATE: DEC 17 1987

I. PURPOSE

This is a request for funding to initiate a Removal Action at the Whitmoyer Labs NPL Site, Myerstown, Lebanon County, Pennsylvania. Removal Action is needed to mitigate the threat to human health presented by the contamination of an estimated twelve (12) private drinking water wells surrounding the Whitmoyer Labs Facility. The threat is from the ingestion of arsenic, a known human carcinogen, and from the ingestion and inhalation of volatile organic compounds (VOCs). Historical and present data show that the levels of arsenic present in local residential wells exceed the concentration which would present a  $10^{-4}$  cancer risk level, and in one home also exceed 50% of the DWEL for 1,1,1-trichloroethane. The requested funds in the amount of \$782,455 will be used to supply bottled drinking water and water filters initially, and to extend municipal water lines to the residences with contaminated well water. Such actions would be appropriate and consistent with any remedial actions which may take place at the site in the future.

II. SITE SETTING AND NATURE OF THE INCIDENT

The Whitmoyer Laboratories Facility occupies seventeen and a half (17.5) acres on Fairlane Avenue in Myerstown, Lebanon County, Pennsylvania. The facility is adjacent to the Tulpehocken Creek, thirty-five (35) miles upstream from the creek's confluence with the Schuylkill River.

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Whitmoyer Labs manufactured veterinary pharmaceuticals on the property at this location between 1934 and 1987. According to company records, Whitmoyer Labs began production of a variety of arsenical pharmaceuticals, especially arsanilic acid, for use as feed additives in the late 1950's. During the period from approximately 1958 until 1964, Whitmoyer dumped four million (4,000,000) pounds of soluble arsenic in an unlined lagoon on the property. The arsenic placed in the lagoon was in lime treated wastewaters, and consisted of a mixture of organically bound arsenic compounds, calcium arsenate, and calcium arsenite according to Whitmoyer internal memoranda (Iezzi, 1978). The four million pounds of soluble arsenic leached into sub-surface soils and rock formations, causing widespread arsenic contamination of the groundwater and surface water in the region. By 1964, the area of subsurface pollution caused by migration of the soluble arsenic wastes was approximately one and a half (1.5) miles wide and six (6) miles long. Arsenic concentrations in residential wells in Myerstown in 1965 were as high as 14,800 ppb, which is three orders of magnitude above the maximum contaminant level. At least two local residents were hospitalized and were diagnosed as victims of chronic arsenic poisoning at this time.

When the groundwater contamination problem was discovered in 1964, Rohm and Haas and Whitmoyer Laboratories began a groundwater pumping and treating operation. Using seven recovery wells, millions of gallons of groundwater were removed from the subsurface, and treated with iron sulfate to form an insoluble arsenic precipitate. The arsenic precipitates were buried on-site, and the treated groundwater was returned to the subsurface to pick up more soluble arsenic. Also in 1964, Rohm and Haas dug up the lagoon where the four million (4,000,000) pounds of arsenic had been placed, and put the contaminated soils in the concrete vault on the banks of the Tulpehocken. Company officials (Iezzi, Croesus) estimate that three million (3,000,000) pounds of arsenic are in the vault. Therefore, one million pounds of arsenic had leached into the surrounding environment. The groundwater pumping operation continued for seven years. In that time, approximately four hundred thousand (400,000) pounds of arsenic were precipitated out of the groundwater. Rohm and Haas halted the groundwater recovery operation in 1971, although six hundred thousand (600,000) pounds of arsenic remain in the subsurface waters.

Local residential wells have been continuously contaminated by arsenic since 1965. Arsenic concentrations vary with the level of the water table, and undergo wide fluctuations during the year, as shown by PADER and company analytical records.

On November 4 and 5, 1987, TAT conducted residential well sampling within a mile radius of the Whitmoyer facility. Samples collected from twenty-four local residences revealed sixteen wells with elevated arsenic concentrations, and twelve of them contain concentrations above the current  $10^{-4}$  cancer risk level for arsenic of 15 ppb. In one residence, the arsenic concentration is 375 ppb, an order of magnitude above the  $10^{-4}$  cancer risk concentration.

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The owners of the Whitmoyer Labs facility had supplied some local residents with bottled water in the past, but since 1984 when the current owner filed for bankruptcy, drinking water has not been furnished for affected residents, and some residents never had such an arrangement with the company.

### III. THREAT

Whitmoyer Labs NPL Site meets the criteria for a Removal Action under the National Contingency Plan in that there is a potential threat to public health and welfare and to the environment, based upon Section 300.65. Factors (i) and (ii) of subpart (b) (2) are as follows:

(i) Actual or potential exposure to hazardous substances by nearby populations, animals, or food chain;

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems.

The proposed provision of an alternative drinking water supply for local residents is an appropriate removal action as defined in Section 300.65 (c) (8) of the NCP, as such a drinking water supply "will reduce the likelihood of exposure of humans or animals to contaminated water".

Twelve residents in the area have arsenic concentrations in excess of the  $10^{-4}$  cancer risk level of 15 ppb. Four wells have arsenic concentrations in excess of 50 ppb. Several wells are contaminated with various VOCs. One house well has a trichloroethane concentration of 557 ppb. The removal action level for this compound is 500 ppb.

See attached data table.

The workers in a local factory (P.J. Valves) may be at risk due to inhalation of volatile organic compounds which are present in high concentrations in the well water they use in processing.

Under anaerobic conditions in subsurface soils, arsenic compounds may be reduced to arsine gas ( $AsH_3$ ). Escape of arsine gas from the ground may provide a significant exposure route for this highly poisonous gas to humans and wildlife living in the area. Arsine, the hydride of arsenic, is one of the more toxic arsenic compounds. It can cause acute hemolysis, renal failure, and liver dysfunction. Exposures as low as 10ppm have produced coma and death. If the exposure is not fatal, the signs of chronic arsenic poisoning may appear.

Reports from local residents indicate that the Tulpehocken Creek and Union Canal (which flow past the Whitmoyer Labs) are used for recreational fishing. As arsenic can bioaccumulate, consumption of arsenic in fish may be an additional arsenic exposure route for humans and wildlife in the surrounding area.

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Arsenic is a known human carcinogen which is acutely toxic to plants and animals. Acute arsenic poisoning in humans may result in muscle spasms, burning and dryness of the oral and nasal cavities, vertigo, delirium, and coma. Chronic arsenic intoxication is characterized by malaise and fatigue, and red cell disruption, decreased red cell production, and leukopenia may be observed. Gastrointestinal disturbances and peripheral neuropathy may develop. Arsenic is a cumulative animal poison, with a moderate potential for food chain transfer.

1,1,1-trichloroethane has a depressant effect on the central nervous system, and the literature suggests it may provoke cardiac arrhythmia at high doses.

1. PROPOSED PROJECT AND COSTS

A. Proposed Project

1. Cost Estimate for the Extension of Water Lines at Whitmoyer Labs NPL Site

The approximately twenty residents for which a separate water supply system is to be investigated are at four isolated areas.

Instead of constructing a new water distribution system, it is recommended to extend the existing water lines for the four isolated areas. One possible way to design the extension is described below. A final plan for extending the water line will require a detailed engineering study.

On Fairlane Avenue there is an existing 4" water line near Whitmoyer Lab. This can be reduced to 3 1/2"-and can be extended to another 3500' up the road. It is suggested to provide a booster pump near the lab. The size of the existing pipe is reduced to get more pressure at the consumer end.

On Race Street, the existing 6" pipe can be reduced to 3 1/2" and can be extended to another 3000' up the road with a booster pump.

On Locust Street, the existing 6" water line can be reduced to 2" and can be extended to another 1000' up the road. Depending on the existing pressure in the water main, it could be decided whether we need a booster pump or not. But for estimating purposes we are considering one small booster pump for the single resident on that road.

On Mill Avenue, the existing 6" water line can be extended to another 800' feet without any booster pump.

No extra water has been considered in this estimate for fire fighting purposes.

To comply with local regulations, ductile iron and PVC piping materials were chosen for the water line.

The booster pumps should be placed on a concrete base in an insulated, well protected structure.

Whitmoyer Laboratories NPL Site  
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2. Fish and Arsine Gas Sampling

Following ATSDR recommendations, fish from the Tulpehocken Creek will be collected and their flesh analyzed for total arsenic.

Air above the lagoons at Whitmoyer Labs and near the concrete vault will be sampled for arsine gas, which may be forming underground. In addition, arsine gas sampling will be performed in the surrounding residential area.

B. Removal Project Ceiling Estimate

EXTRAMURAL COSTS

Extramural Cleanup Contractor (ductile iron and PVC pipes, 40" deep, 8300 ft at approx. \$35/ft)	\$290,500
Basic Engineering Services (Plans and Specifications)	\$100,000
Booster pump (or pumps) if necessary	\$150,000
Bottled water and water filters	\$15,000
Legal (Right-of-way Agreements or Releases, etc.)	\$4,000
TAT Costs	\$40,000
Aquatic Toxicology Analytical Costs	\$5,000
Arsine Gas Study Analytical Costs	\$5,000
Subtotal, Extramural Direct Costs	\$609,500
25% Project contingency (rock excavation, inside plumbing, creek crossings, etc.)	<u>\$152,375</u>
TOTAL EXTRAMURAL COSTS	\$761,875

INTRAMURAL COSTS

Intramural Direct Costs (30.00 x 270 labor hours) (240 Region III, 30 Headquarters)	\$8,100
Intramural Indirect Costs (Region III Indirect Cost Rate x 240 Regional Hours)	<u>\$12,480</u>
TOTAL INTRAMURAL COSTS	\$20,580

TOTAL REMOVAL PROJECT CEILING ESTIMATE	\$782,455
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Whitmoyer Laboratories NPL Site  
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ORIGINAL  
(Red)

VI. ENFORCEMENT

See attached confidential enforcement memo

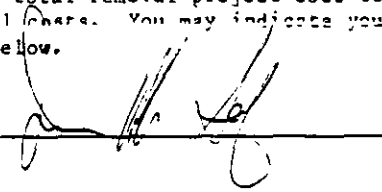
VII. CONTRIBUTION TO REMEDIAL PERFORMANCE

The removal actions proposed in this funding request are consistent with Section 104 (a) (2) of the Superfund Amendments and Reauthorization Act (SARA). This section requires that removal actions contribute to the efficient performance of any long term remedial action. Installation of filters and supply of bottled water are clearly consistent with remedial actions which may be undertaken at the site in the future.

VIII. REGIONAL RECOMMENDATION

Because conditions at the Whitmoyer Labs NPL Site meet the criteria set forth in the National Contingency Plan, Section 300.65 for a removal. Your approval is recommended for this removal request. The estimated total removal project cost is \$782,455 of which \$761,875 is for extramural costs. You may indicate your approval or disapproval by signing below.

APPROVAL



DATE

12/17/87

DISAPPROVAL

DATE

Whitmoyer Laboratories NPL Site  
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FOI b 7 EFOI b 7  
FOI b 7 EFOI b 7  
FOI b 7 EFOI b 7

December 4, 1987

Regional Representative  
Agency on Toxic Substances and Disease Registry  
Region III

Jack Downie On-Scene Coordinator  
Environmental Protection Agency  
Region III

Whitmoyer Laboratories Inc.  
Lebanon County, PA

As requested the Agency on Toxic Substances and Disease Registry (ATSDR) technical staff (Dr. David Mellard), and I have reviewed the data package provided to me on November 23, 1987. That package contained the analytical results from private residential wells and site maps. Those samples were collected between November 4, 1987 and November 5, 1987 by Weston Technical Assistance Team (TAT).

Specifically, the Environmental Protection Agency (EPA) has requested that ATSDR review the analytical data package to determine if a potential public health threat exists from the continued use of the water for cooking and bathing. According to information provided by the EPA most residents near this site are presently not drinking the water from their residential wells. However, the residents continue to use the water for cooking, bathing, and other household uses.

November sampling at this site has demonstrated that arsenic levels at the High, Gible, Kreider, Donner, Shaak, Shaak Jr. Laysen, Swanger, Hurst, Wenger, and Eiceman residences (range 26-376 ppb), are either greater than one-half the Maximum Contaminant Level (MCL) or lie in the path of the migrating arsenic plume. Because levels may increase in the future, those residents cited above should not use residential well water for cooking.

In addition to EPA's concerns with residents cooking with arsenic contaminated water, we have been asked to comment on the public health implications of bathing in the residential well water. Dermal absorption of arsenic has not been adequately addressed in the scientific literature.

Generally, metals are considered to be poorly absorbed by the by the skin. However, given the lack of conclusive evidence regarding this concern, we therefore can not state unequivocally that no risk exists via this exposure pathway.

The sampling performed during this investigation further demonstrated Volatile Organic Compound (VOC) contamination in the residential wells. The analysis of the samples demonstrated unacceptable levels of Trichloroethane (TCA) at the Gible and High residences (557 and 425 ppb respectively). Both of these levels exceed or approach one-half the Drinking Water Equivalent Level (DWEL) which should

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Federal On-Scene Coordinator's Report  
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SENT BY FAX TO: BOSTON

DATE: 8-17-87 BY: FLM/1

D-113-

6094828781/9 1

trigger a removal action according to EPA's Interim Final Guidance on Removal Action Levels at contaminated Drinking Water Sites. An increased risk of cancer may exist via inhalation following volatilization of 1,1 dichloroethane (DCA), trichloroethylene (TCE), and tetrachloroethylene (PCE) during household use of potable water at the Gibble and High residences.

Given the history of contamination at the above site and the current levels of Arsenic and VOC contamination demonstrated by the latest round of sampling, a public health threat does exist to the residents. We therefore make the following recommendations:

- (1) Due to arsenic contamination the residential well water well water should not be used for cooking at any of the above cited residences.
- (2) As a result of VOC contamination at the Gibble and High residences an acceptable alternate water source should be provided for both potable and general household uses within thirty days.
- (3) Air monitoring for arsine at the site perimeter should be initiated immediately to determine if anaerobic soil conditions are leading to the production of this gas.
- (4) If fishing is allowed in the Tulpenocken Creek, or nearby surface water sampling should be performed on the edible portion of the fish.
- (5) Investigation should be performed to determine the purposes and extent of water uses at P.J. Valves. Possible worker exposure at this facility needs to be assessed.
- (6) Sampling of cows milk for arsenic should be performed at Sauter Farm as well as other farms in the area to determine if local dairy cows are being impacted from contaminant migration.
- (7) As part of the remedial process, monitoring should continue on private residential wells until levels of VOC's (particularly TCA, TCE, PCE, DCE, and DCA) are below the MCL. This monitoring should be conducted until a permanent acceptable water supply is provided.

M. Joyce McCurdy



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WHITMOYER LABS NPL SITE  
ARSENIC CONCENTRATIONS IN RESIDENTIAL WELLS  
1965-1985  
(ARSENIC IN PPB)

YEAR	1965	1966	1969	1970	1971	1972	1982	1985	19
RESIDENCE									
HICKMAN							96 <input type="checkbox"/>	76 <input type="checkbox"/>	4
GIBBLE	510 <input type="checkbox"/>	240 <input type="checkbox"/>	110 <input type="checkbox"/>	120 <input type="checkbox"/>	60 <input type="checkbox"/>				14
HIGH							49 <input type="checkbox"/>	13 <input type="checkbox"/> 36 <input type="checkbox"/>	6
KREIDER	210 <input type="checkbox"/>	190 <input type="checkbox"/>	90 <input type="checkbox"/>	70 <input type="checkbox"/>	40 <input type="checkbox"/>				6
LAYSER							60 <input type="checkbox"/>	38 <input type="checkbox"/>	1
MAYS	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>	30 <input type="checkbox"/>	20 <input type="checkbox"/>	10 <input type="checkbox"/>	15 <input type="checkbox"/>	6 <input type="checkbox"/>	1
PC VALVES (EAST)		390 <input type="checkbox"/>	90 <input type="checkbox"/>	80 <input type="checkbox"/>	40 <input type="checkbox"/>	20 <input type="checkbox"/>	50 <input type="checkbox"/>	140 <input type="checkbox"/> 47 <input type="checkbox"/>	6
SAUTER HOME	330 <input type="checkbox"/>	103 <input type="checkbox"/>	33 <input type="checkbox"/>	100 <input type="checkbox"/>	22 <input type="checkbox"/>	12 <input type="checkbox"/>	17 <input type="checkbox"/>	10 <input type="checkbox"/>	1
SAUTER BARN							21 <input type="checkbox"/>	11 <input type="checkbox"/>	1
SWANGER	14800 <input type="checkbox"/>	1380 <input type="checkbox"/>	1370 <input type="checkbox"/>	1370 <input type="checkbox"/>	1200 <input type="checkbox"/>	530 <input type="checkbox"/>	156 <input type="checkbox"/>	370 <input type="checkbox"/> 445 <input type="checkbox"/>	37
WENGER		130 <input type="checkbox"/>	70 <input type="checkbox"/>	70 <input type="checkbox"/>	50 <input type="checkbox"/>	40 <input type="checkbox"/>	55 <input type="checkbox"/>	19 <input type="checkbox"/> 16 <input type="checkbox"/>	2

SOURCE OF DATA

- ☐ PENNSYLVANIA D.E.R.
- ☐ U.S. EPA REGION III
- ☐ ROHM AND HAAS COMPANY RECORDS

ORIGINAL  
(11/11/87)

Whitmoyer Laboratories NPL Site  
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P.O. Box 100, Temple, PA 19560  
(215) 926-0800

WISER ID # 77180 Nov 11, 1987  
PA DER ID # 06-100

Roy F. Weston Co.  
53 Madisonfield Road  
Cherry Hill, NJ 08002  
Attention: Bhupi Khosla, Carol MacBath

ANALYSIS OF SAMPLES RECEIVED 11-6-87:

<u>A &amp; S ID</u>	<u>CLIENT ID</u>	<u>ARSENIC, mg/L</u>
11-0687-01	Dohrer Residence	< 0.001
11-0687-02	Shaak Residence	< 0.001
11-0687-03	F. Shaak Jr. Residence	0.025, DUP 0.027, 100
11-0687-04	Layser Residence	0.021 @ 25 ppb
11-0687-05	Swarger Residence	0.375
11-0687-06	Horst Residence	0.046
11-0687-07	Warger Residence	0.026
11-0687-08	Warger Cow Barn	0.017
11-0687-09	Eicenar	0.043
11-0687-10	High	0.080
11-0687-11	Messerschmidt	0.007
11-0687-12	Schoer	0.003
11-0687-13	Wagner	0.003
11-0687-14	Messerschmidt, Jr.	< 0.001
11-0687-15	Gibble	0.145
11-0687-16	Wubb Residence	0.005, DUP 0.006
11-0687-17	Martin Residence	0.005
11-0687-18	P.J. Valves, Factory	0.063
11-0687-19	P.J. Valves, Office	0.011, 98- <del>7</del> REC @ 25
11-0687-20	Zimmerman Residence	0.007
11-0687-21	Kreides Residence	0.088, 99- <del>7</del> REC @ 25
11-0687-22	Mays Residence	0.019
11-0687-23	Sauter Residence	0.011
11-0687-24	Sauter Barn	0.014

Reviewed by:

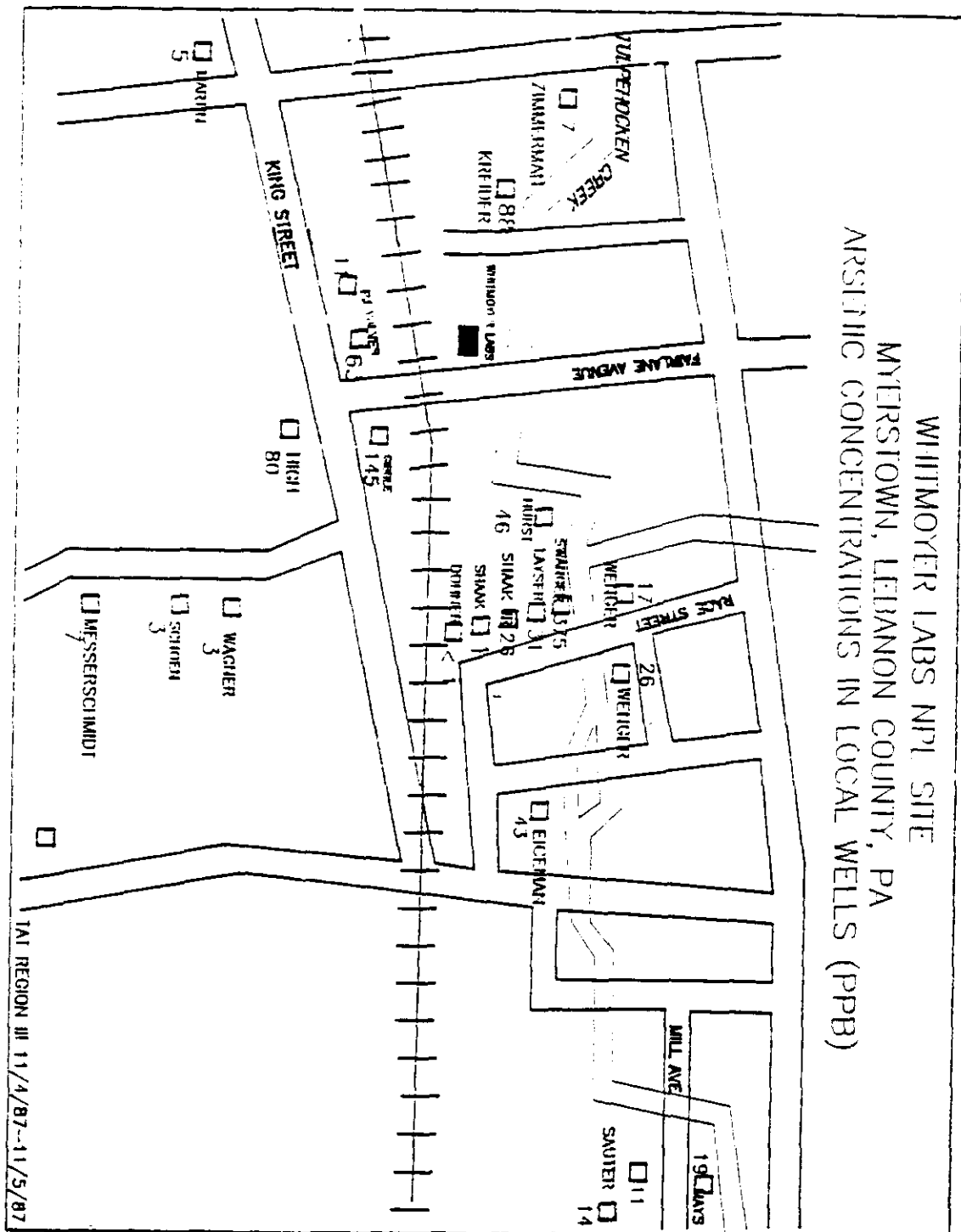
*[Signature]*

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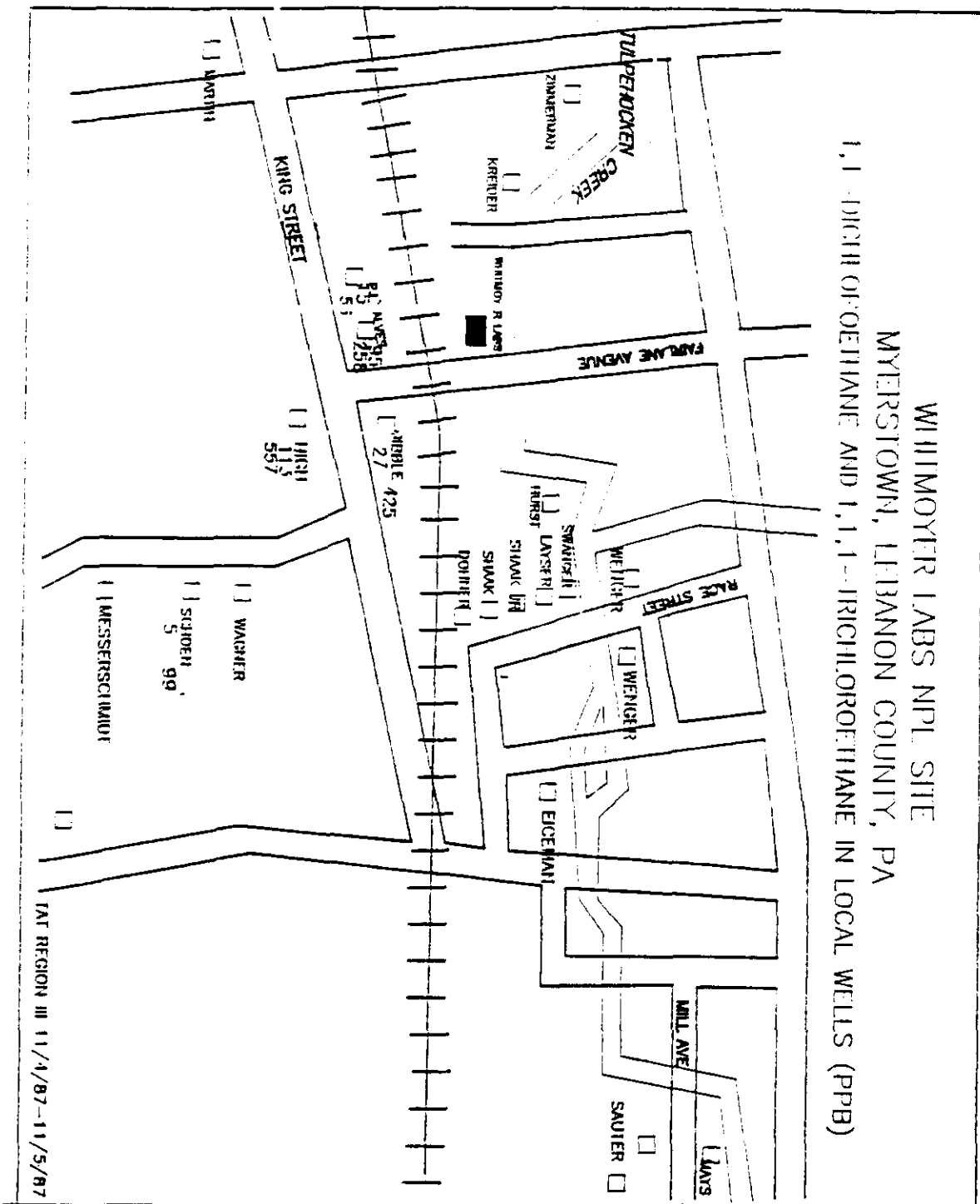
ORIGINAL  
(Red)

Summary of November 4 and 5, 1987 VOA Sampling by TAT Region III of Residential Wells Near the Whitmoyer Labs Site. Elevated concentrations of 1,1-dichloroethane and 1,1,1-trichloroethane are selectively presented here. All concentrations are in ppb.

<u>Residence</u>	<u>1,1-dichloroethane (ppb)</u>	<u>1,1,1-trichloroethane (ppb)</u>
Gibble	27.0	425.0
High	113.0	557.0
PJ Valves (factory)	95.0	258.0
PJ Valves (office)	15.0	55.0
Schoen	5.0	99.0



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III

841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: Justification for Additional Funding Request  
of CERCLA Removal Funds and Change of Scope  
of Work for the Whitmoyer Labs NPL Site,  
Myerstown, Lebanon Co., PA

DATE: SEP 21 1988

FROM: James M. Seif  
Regional Administrator (SRA00)

TO: Dr. J. Winston Porter, Assistant Administrator  
Office of Solid Waste and Emergency Response  
(WH-548-B)

Pursuant to the Delegation of Authority 14-1-A (9/13/87),  
and 104 (C) (1) of the Superfund Amendments and Reauthorization  
Act of 1986 (SARA) which authorizes the Regional Administrator  
to approve CERCLA Removal Actions with a total cost not to  
exceed \$2,000,000, I have approved an increase for the Whitmoyer  
Labs NPL Site in the amount of \$1,125,491. The new approved  
total project ceiling is \$1,907,946.

Attachments: 1) Memo from RPM  
2) Memo from remedial contractor  
3) Initial funding request

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: Request for Ceiling Increase and Change of Scope of Work for the Whitmoyer Labs NPL Site, Myerstown, Lebanon County, Pennsylvania DATE:  
FROM: Jack L. Downie, On-Scene Coordinator (3HW25) *Jack L. Downie*  
TO: James M. Seif, Regional Administrator (3RA00) *Stephen R. Wassersug*  
THRU: Stephen R. Wassersug, Director Hazardous Waste Management Division (3HW00) *SRW*

I. ISSUE

Additional funds are necessary to continue with emergency removal actions to eliminate the threat to the public health and the environment posed by the Whitmoyer Labs NPL Site. The existing scope of work addresses providing potable water to residents with contaminated wells only, and does not address conditions that exist on the facility itself. Investigation by the remedial program has indicated that conditions onsite warrant emergency removal action, due to the presence of potentially shock sensitive materials. Shock sensitive materials exist both in laboratories onsite, and in drums stored both inside buildings and outdoors. There are also many containers onsite the contents of which are unknown. This proposed change of scope of work for the site will expand it to cover the stabilization of all drummed materials and laboratory chemicals stored onsite.

Whitmoyer Labs site is on the National Priorities List (NPL rank #244). The remedial project manager has expressed concern over the shock sensitive materials onsite, and it has been determined that emergency removal actions are necessary to ensure protection to the public health and the environment. Upon stabilization of all the lab and drum wastes onsite, disposal is expected to be carried out under a Record of Decision by the remedial program. If it is determined that the staged materials still pose a major threat, additional funds may be requested for disposal by the Removal Response Section.

10/1/88  
(Wed)

**Whitmoyer Laboratories NPL Site  
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**II. BACKGROUND**

**A. Incident/Response History**

The Whitmoyer Laboratories Facility occupies seventeen and a half (17.5) acres on Fairlane Avenue in Myerstown, Lebanon County, Pennsylvania. The facility manufactured veterinary pharmaceuticals on the property at the location between 1934 and 1984. In July 1964, the company was acquired by Rohm and Haas but retained its name. Rohm and Haas sold the facility in early 1978 to Beecham, Inc., which subsequently sold it to Stafford Laboratories. Stafford Labs has been issued Federal and State orders to dispose of the RCRA wastes stored on site. However, these wastes have not left the site. Myerwhit Corporation, has purchased processed equipment from Stafford Labs, and had been interested in purchasing the facility. However Myerwhit abandoned the site officially as of 8/23/88. In addition to the drums and lab wastes, there is a vault onsite that contains an estimated 3,000,000 pounds of arsenic wastes. There were also unlined lagoons onsite reportedly containing arsenic wastes. Several storage tanks remain onsite which contain arsenic waste liquids and aniline. The site is currently on the National Priorities List (NPL rank #244). The lagoons, storage tanks, and vault are addressed in the remedial work plan. The vault is also the subject of a pending unilateral removal order.

**B. Site Conditions**

The site consists of approximately 17 buildings. Drums are stored both inside buildings and outdoors. The two laboratories onsite contain hundreds of bottles of chemicals representing many different waste streams. There is a fence around the facility, but there are many areas where access to the site could be obtained quite easily. There are no warning signs indicating that hazardous materials are present onsite. As of 8/23/88, 24 hour site security will be provided by the remedial section, but it is impossible to watch the whole site at one time. In addition, there is a food warehouse onsite to and from which food is transported via truck daily.

On August 15 and 16, 1988, a preliminary assessment was performed by OSC Jack Downie and TAT. OSC and TAT met with remedial project manager Jeff Pike, PADER, and remedial (FIT) contractors onsite. Remedial provided the OSC with a partial inventory of drums stored onsite. Drums onsite included ethers, alcohols, acids, arsenic and aniline compounds, phenols, and other organic compounds. Many of these compounds have been determined to be extremely toxic, and can result in very serious adverse health effects by direct contact. In addition, there is an explosion and fire threat resulting from the



-3-

possible formation of peroxides in the ether drums. Many of these drums are stored outside where heat from the sun could easily accelerate the peroxide forming process. An entry into the two laboratories onsite was made by the assessment team. In addition to hundreds of bottles of chemicals representing many waste streams, some immediate concerns observed included two one liter glass jars of picric acid, one of which had crystals forming on the neck and cap of the bottle. This can pose a serious explosion hazard. Gallon jugs of HCL were noticed stored next to Sodium Cyanide, and there were many small bottles of unknown materials. Upon entry into another building onsite, it was observed that the roof was leaking and causing puddling where many QA/QC product samples were stored. It was visibly apparent that this water was becoming contaminated by the stored materials. This matter should also be addressed on an emergency basis, since it is possible for this liquid waste to flow from the building into the Tulpehocken Creek, located only a few yards away. Additional CERCLA funds are immediately required to protect the public health and the environment from these immediate threats posed at this site.

Currently CERCLA funds are being utilized to provide bottled water to 24 residents in close proximity to the site. These home wells are contaminated with Arsenic, 1,1,1-Trichloroethane and 1,1-Dichloroethane. Funds have also been used to install carbon filtration systems, conduct periodic sampling of these resident's wells and to maintain the systems. In addition plans for extension of the municipal water lines have been drawn up and will be implemented shortly upon final agreements between EPA and the borough water authority.

### III. ENFORCEMENT STATUS

see Enforcement Confidential Status (attached)

### IV. PROPOSED ACTIONS

As previously stated, new site developments have caused the OSC to revise the scope of work at this site in order to protect human health and the environment. This section will review the additional removal actions which are required to secure this site.

The revised scope of work for this removal project has been divided into three distinct phases. Phase I will involve the identification, segregation and packaging of laboratory reagent chemicals which are located in two separate laboratory areas.

ORIGINAL  
12-24

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Several of the estimated 2,000 containers have been identified as possible shock sensitive materials including crystallized picric acid and ether compounds. These shock sensitive materials are contained in lab containers and drums mainly inside the labs and facility buildings. These sensitive materials will be treated or detonated on or near the site using the most practical and efficient methods applicable to the site conditions. Non-shock sensitive materials will be segregated by their respective disposal groups, labpacked as per DOT and disposal facility criteria and staged securely for eventual disposal at an EPA approved facility. Unknown materials will be remotely opened to reduce the risk to onsite personnel.

Also included in Phase I is the roof repair to structures which currently house the wastes. This will be performed to insure worker safety and to prevent the detrimental degradation of container integrity.

Phase II of this removal project will include the assessment, sampling and stabilization of an estimated 800 drums of known and unknown material. A detailed assessment inventory will be performed by my technical contractors to determine the identity and volume of the various waste streams. Laboratory analysis and/or field screening methods will be utilized to determine the appropriate disposal grouping for the drummed material. The drums will be overpacked as deemed necessary by the OSC. When the containers are secured, they will be staged according to compatibility type in a secured location on site pending disposal/treatment arrangements.

Funding under the clean-up contractor's ceiling includes \$20K for unplanned releases or spill handling which are likely to occur, when considering the condition of the site.

Phase III would consist of treatment or disposal of the secured drum and labpack waste streams in a manner consistent with Regional policy and the planned Remedial activities.

#### V. SUMMARY OF COSTS

It is the OSC's intention to request additional funding to complete the activities previously designated in Phase I and Phase II. Phase III disposal activities will be further discussed with the various EPA program elements to insure a consistent agency approach. Any major disposal activities will require the submission of a separate additional funding request for Phase III activities.

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The current and proposed project ceiling may be itemized as follows:

Current Ceiling

EXTRAMURAL COSTS

Extramural Cleanup Contractor (ductile iron and PVC pipes, 40" deep, 8300 ft at approx. \$35/ft)	\$290,500
Basic Engineering Services (Plans and Specifications)	\$100,000
Booster pump (or pumps) if necessary	\$150,000
Bottled water and water filters	\$15,000
Legal (Right-of-way Agreements or Releases, etc.)	\$4,000
TAT Costs	\$40,000
Aquatic Toxicology Analytical Costs	\$5,000
Arsine Gas Study Analytical Costs	\$5,000
Subtotal, Extramural Direct Costs	\$609,500
25% Project contingency (rock excavation, inside plumbing, creek crossings, etc.)	\$152,375
TOTAL EXTRAMURAL COSTS	\$761,875

INTRAMURAL COSTS

Intramural Direct Costs (\$30.00 x 270 labor hours) (240 Region III, 30 Headquarters)	\$8,100
Intramural Indirect Costs (Region III Indirect Cost Rate x 240 Regional Hours)	<u>\$12,480</u>
TOTAL INTRAMURAL COSTS	\$20,580

TOTAL REMOVAL PROJECT CEILING ESTIMATE	\$782,455
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Proposed Ceiling Increase

EXTRAMURAL COSTS

Clean-up Contractor	
Phase 1	\$113,000
Phase 2	\$631,300
Contingency (10%)	\$74,400
TAT Costs	\$78,681
ERT/EERU	\$20,000
Subtotal Extramural	\$917,081
	\$137,562
Project Contingency (15%)	\$1,054,643

INTRAMURAL COSTS

Intramural Direct Costs	\$25,920
\$30,000 x 864 labor hours)	
(800 Region III, GO HQ)	
Intramural Indirect Costs	\$44,928
	\$70,848

TOTAL PROPOSED INCREASE	\$1,125,491
CURRENT CEILING	\$782,455
TOTAL PROPOSED PROJECT CEILING	\$1,907,946

ORIGINAL  
10/2/55

Whitmoyer Laboratories NPL Site  
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VI. REGIONAL RECOMMENDATION

Because the conditions at the Whitmoyer Labs NPL Site meet the criteria for a removal action under section 300.65 of the RCRA, I recommend your approval of this \$1,125,491 ceiling increase to mitigate the imminent threats to public health and the environment.

Your approval would raise the total ceiling from \$782,455 to \$1,907,946. You may indicate your approval or disapproval by signing below.

Approved Stephen R. Manning Date Sept 21, 1985  
for RCR

Disapproved \_\_\_\_\_ Date \_\_\_\_\_

Whitmoyer Laboratories NPL Site  
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III

841 Chestnut Building  
Philadelphia, Pennsylvania 19107

Request for an Exemption to the One-Year  
Statutory Limit and Change of Scope of Work  
SUBJECT: for Removal Actions at the Whitmoyer Labs NPL Site, Myerstown, Lebanon County, Pennsylvania. DATE: DEC 16 1988

FROM: Stanley L. Laskowski, *Stanley L. Laskowski*  
Acting Regional Administrator (30400)

TO: Dr. J. Winston Porter, Assistant Administrator  
Solid Waste and Emergency Response (WH-562A)

THRU: Henry L. Longest, Director  
Office of Emergency and Remedial Response (WH-584)

ATTN: Timothy Fields, Director  
Emergency Response Division (WH-348E)

ISSUE

Continued removal activities beyond the one-year statutory limit cannot be undertaken unless an exemption to Section 104(e) of the Superfund Amendments and Reauthorization Act (SARA) of 1986 [104(c)(1) of CERCLA 1980 as amended] is granted.

Additional time beyond the statutory limit is necessary to continue removal actions to mitigate the threat to the public health and the environment posed by levels of arsenic in residential wells which exceed the  $10^{-4}$  cancer risk concentrations for drinking water. In addition, subsequent time is needed for characterization and stabilization of drummed and laboratory wastes stored onsite, per the ceiling increase and change of scope-of-work document signed by the Regional Administrator on September 21, 1988.

The initial response action at the Whitmoyer Labs NPL Site took place on December 17, 1987, and the one-year statutory limit will expire on December 17, 1988.

This site is ranked #244 on the National Priorities List.

Attachments

Initial Funding Request  
Additional Funding Request

Whitmoyer Laboratories NPL Site  
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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## REGION III

841 Chestnut Building  
Philadelphia, Pennsylvania 19107

SUBJECT: Request for Approval of Exemption to the One-Year  
Statutory Limit and Change of Scope of Work  
for the Whitmoyer Labs NPL Site, Myerstown,  
Lebanon County, Pennsylvania. DATE:

FROM: *Downie*  
Jack L. Downie, On-Scene Coordinator (OSC)  
Western Response Section (3HW25)

TO: Stanley L. Laskowski  
Acting Regional Administrator (3DA00)

THRU: *Wassersug*  
Stephen R. Wassersug, Director  
Hazardous Waste Management Division (3HW00)

## I. ISSUE

Continued removal activities beyond the one-year statutory limit cannot be undertaken unless an exemption to Section 104(e) of the Superfund Amendments and Reauthorization Act (SARA) of 1986 [104(c)(1) of CERCLA 1980 as amended] is granted.

## Statutory Criteria

Section 104(e) of SARA [104(c)(1) of CERCLA as amended] limits removal actions to \$2,000,000 and one year, unless the following criteria are met:

1. Continued response actions are immediately required to prevent, limit, or mitigate an emergency;
2. there is an immediate risk to public health or welfare, or the environment; and
3. such assistance will not otherwise be provided on a timely basis.

## II. BACKGROUND

## A. Incident/Response History

The Whitmoyer Labs facility occupies seventeen and a half (17.5) acres on Fairlane Avenue in Myerstown, Lebanon County, Pennsylvania. The facility manufactured veterinary pharmaceuticals on the property at the location between 1934 and

**Whitmoyer Laboratories NPL Site  
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2

1984. According to company records, Whitmoyer Labs began production in the late 1950's of a variety of pharmaceuticals containing arsenic, especially arsenilic acid, for use as feed additives. During a period from about 1958 to 1964, Whitmoyer dumped an estimated 4,000,000 pounds of soluble arsenic into an unlined lagoon on the property. This soluble arsenic has leached into subsurface soils and rock formations, causing widespread arsenic contamination of the ground water and surface water in the region. Arsenic concentrations in 1964 were as high as 14,800 ppb, which is three orders of magnitude above the maximum contaminant level of 50 ppb. At least two local residents were hospitalized and diagnosed to have chronic arsenic poisoning at that time.

In 1964, Whitmoyer Labs became a subsidiary of Rohm and Haas. Around that same time, the ground water contamination problem was discovered. Rohm and Haas began a ground water pumping and treating operation. Using seven recovery wells, millions of gallons of ground water were removed and treated with iron sulfate, to form an insoluble arsenic precipitate. The arsenic precipitates were buried onsite, and the treated ground water was returned to the subsurface to pick up more soluble arsenic. Also in 1964, Rohm and Haas dug up the lagoon where the four million (4,000,000) pounds of arsenic had been placed, and put the contaminated soils in a concrete vault on site. The vault is on the bank of the Tulpehocken Creek, which borders the site, and is a tributary to the Schuylkill River. Rohm and Haas halted their ground water recovery efforts in 1971, although an estimated six-hundred-thousand (600,000) pounds of arsenic remained in the subsurface waters.

In early 1978, Rohm and Haas sold the facility to Beecham, Inc., which subsequently sold it to Stafford Labs. In addition to the arsenic contained within the subsurface and in the vault, many hazardous materials remained on the property. They consisted of drum and laboratory wastes, as well as wastes contained in storage tanks and process vessels. Stafford Labs has been issued Federal and State orders to dispose of the RCRA wastes stored onsite. However, these wastes have not left the site. The new owners of the site, Myerwhit Corporation, took over the site with a contract agreement that Stafford Labs would take care of disposal of the RCRA wastes. Myerwhit Corporation, who bought the facility basically for equipment recovery, denies responsibility for hazardous wastes remaining at the site. On August 23, 1988, Myerwhit abandoned the site, leaving it to EPA's remedial section.



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B. Site Conditions

On November 4 and 5, 1987, the EPA Region III Technical Assistance Team (TAT) conducted residential well sampling within a one-mile radius of the Whitmoyer Facility. Samples collected from twenty-four local residences revealed sixteen wells with elevated arsenic concentration, and twelve of them contain concentrations above the  $10^{-4}$  cancer risk level for arsenic of 15 ppb. In one residence, the arsenic concentration was found to be 375 ppb, an order of magnitude above the  $10^{-4}$  cancer risk concentration. Some of these wells were also found to contain volatile organic compounds, such as 1,1,1-trichloroethane. A funding request was then submitted to provide bottled water and carbon filtration systems to the affected residences, and to work with the Myerstown Municipal Water Authority on extending the nearby public water line to the affected residences. This was signed by the Regional Administrator on December 17, 1987. Currently, CERCLA funds are being used to provide bottled water to 24 local residents, and to install and maintain carbon filtration systems at three of these residences.

The Whitmoyer Facility itself consists of approximately 17 buildings. Drums are stored both inside buildings and outdoors. There are two laboratories onsite containing hundreds of bottles of chemicals representing many different waste streams. There is a fence around the facility, but there are many areas where access to the site could be obtained quite easily. In addition, there is a food warehouse onsite which workers access daily.

On August 15 and 16, 1988, a preliminary assessment was performed by OSC Jack Downie and the TAT, at the request of the Remedial Project Manager, Jeff Pike. According to information obtained by the remedial contractor, some potentially shock-sensitive materials were onsite. The remedial contractors felt this could pose an immediate threat to the public health and the environment, so they requested assistance from the removal response program. They provided the OSC with a partial inventory of the drums stored onsite. Drums include ethers, alcohols, acids, arsenic and aniline compounds, phenols, and other organic compounds. Many of these compounds have been determined to be extremely toxic, and can result in very serious health effects through direct contact. In addition, there is a fire and explosion threat resulting from the possible formation of peroxides in the ether drums. Many of these drums are stored outside where heat and cold could accelerate the peroxide-forming process. At this assessment, the threat identified by the remedial

program was verified, and it was determined by the OSC that additional immediate removal actions were necessary to protect the public health and the environment from the threat posed by the hazardous materials stored on this site. An Additional Funding Request and Change of Scope-of-Work document were developed to characterize and stabilize all drum and lab wastes onsite. Contingencies were built into this document to cover any emergency situations which could also occur during removal operations. Since the Additional Funding Request was signed on September 21, 1988, EPA's Remedial Response Section has awarded a bid to Waste Conversion, Inc. to perform the lab packing operations. Therefore, the proposed actions for the Western Response Section have changed. The OSC hopes to use monies that were allocated for lab pack operations toward disposal of the drummed wastes. Removal operations at this site commenced on October 31, 1988. All drummed wastes (approximately 800 drums) onsite were staged and sampled, and two one-pound jars of picric acid along with five pounds of sodium metal were treated onsite. The crew was demobilized on November 10, 1988. Samples were delivered to O.H. Materials lab in Findlay, Ohio for compatibility/bulk testing.

### III. CRITERIA FOR EXEMPTION FROM STATUTORY LIMITS

The OSC has determined that the criteria necessary to authorize an exemption to the one-year statutory limit have been demonstrated as follows:

1. Continued response actions are necessary to limit or mitigate the emergency. If removal actions are terminated at the end of the one-year period, the affected population that is currently being supplied with bottled water or with carbon filtration systems, will again be exposed to levels of contaminants which significantly exceed the EPA action levels. It is apparent that the bottled water and carbon filtration systems are only a temporary solution, and that negotiations with EPA and the Myerstown Water Authority must continue toward extending a public water line to these affected homes.

2. There is an immediate risk to the public health, welfare, and the environment. As stated in the Initial Funding Request (approved on 12/17/87), the Agency for Toxic Substances and Disease Registry confirmed that the concentrations of contaminants in residential wells surrounding the site do pose a public health threat (see attached). Arsenic is a known human carcinogen. In addition, the materials stored onsite could pose a substantial threat to the surrounding population and environment. Materials drummed

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onsite include arsenic and aniline wastes, ethers, phenols, acids, and other organic compounds. A fire and explosion threat exists from the ether drums. Some of the drums onsite are in deteriorating condition, and their contents could leak out and easily reach the Tulpenocken Creek, which borders the site.

3. Assistance will not otherwise be provided in a timely manner. The Enforcement section investigation continues, but it does not appear that any cleanup actions will be undertaken by any PRPs in the near future. The site is ranked #244 on the NPL, and the remedial investigation is proceeding simultaneously with removal operations. Contracting mechanisms available to the Remedial Response Section cannot provide a timely response to characterize and stabilize the drummed wastes. In addition, the Pennsylvania Department of Environmental Resources (PADER) has indicated that they have insufficient funds or resources to extend the water line to affected residences or to assist with removal of the wastes currently stored on the property. All onsite activities anticipated by the Western Response Section are consistent with the remedial work plan. The Remedial Response Section and their contractor (NUS) are on site simultaneously with the Western Response Section. The OSC remains in constant contact with the remedial project manager. A continued response will facilitate future plans for the Remedial Response Section to arrange for the ultimate disposal of the wastes. With the drummed wastes now being staged and categorized, the process of seeking disposal options will be facilitated.

#### IV. PROPOSED ACTIONS

As previously stated, all onsite removal activities will be consistent with the remedial work plan. However, new site developments have caused the OSC to revise the scope of work. Further site activities will include continuing to supply bottled water and maintaining carbon filtration systems at all affected residences until an ultimate solution can be agreed upon between EPA and the Myerstown Municipal Water Authority. Regarding the conditions existing on the property, all the drums have been sampled, secured, and staged in a secure location onsite, and the OSC has demobilized the work crew pending results of the compatibility/bulk testing of the samples currently ongoing at the O.H. Materials lab. Upon receipt of the test results and disposal approvals, the OSC plans to commence Phase III activities which will include disposal. The OSC believes that the drums should be disposed of as soon as possible. Many of them are in poor condition and approximately one third have been opened remotely and are

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only covered with plastic. If these drums are not disposed of in the near future, a considerable amount of money will be spent securing these drums for long-term storage. If this happens, the drums may have to be reopened and resampled in the future because disposal requirements may change or disposal facilities might not be willing to accept old data. The OSC believes that the emergency monies saved on lab pack operations can be obligated toward disposal. In addition, it is the intention of the OSC to work with the EPA Remedial Response Section to ensure a consistent agency approach and have these wastes removed from the site in a timely manner.

V. REGIONAL RECOMMENDATION

Because the conditions at the Whitmoyer Labs NPL Site meet the criteria for an exemption of the one-year statutory limit for a removal action, I recommend your approval of this request.

You may indicate your approval or disapproval by signing below.

Approval:  Date: 12/16/98

Disapproval: \_\_\_\_\_ Date: \_\_\_\_\_

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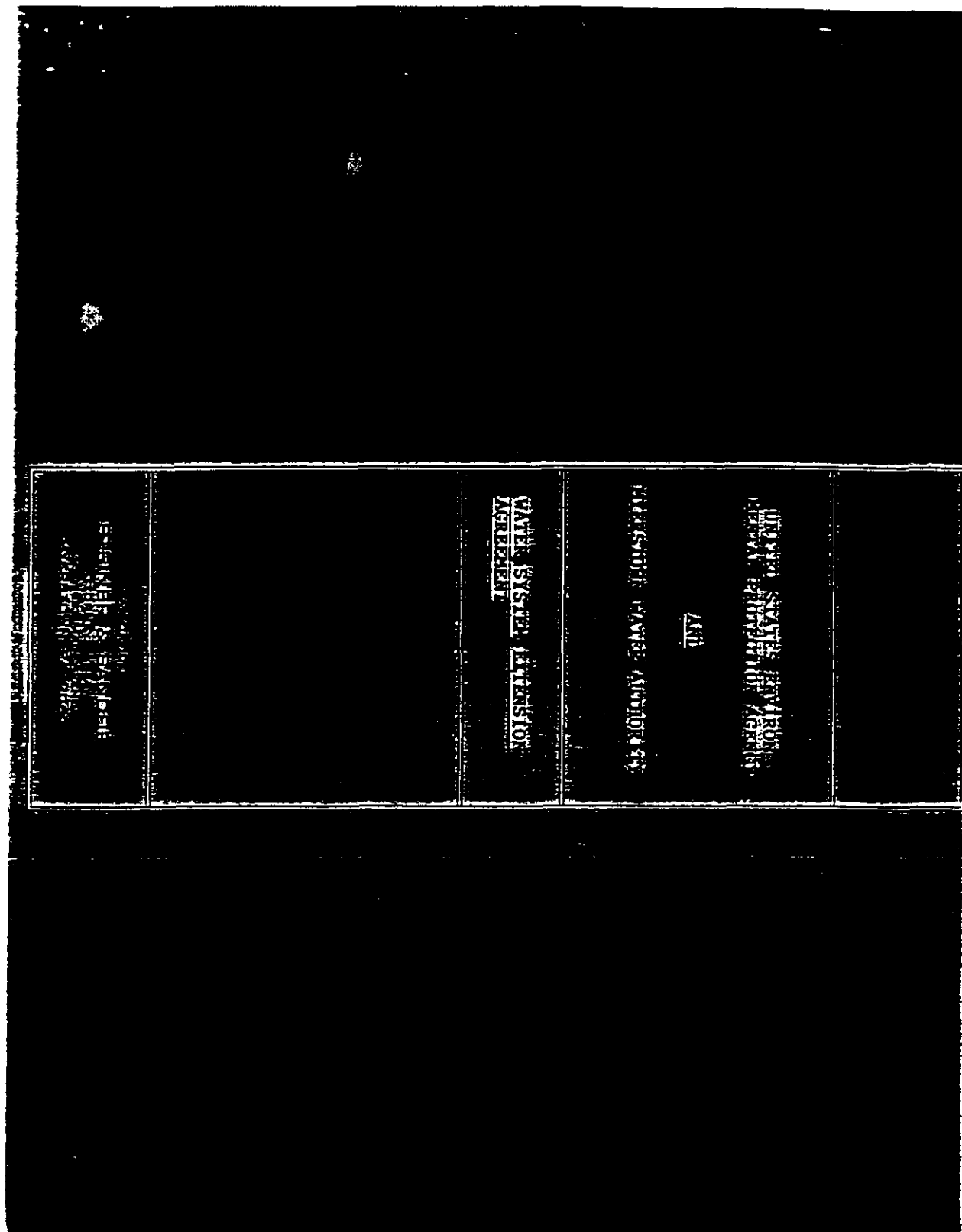
C. Region III Incident Notification Report

check REGION III INCIDENT NOTIFICATION REPORT

156 No.: PA87394

Reported: (mm/dd/yy) 4-6-87		3. Time: 1400		Recorded By: J. Martinez	
<input type="checkbox"/> Through NRC:		5. NRC Case No.:			
A. REPORTER	6. Reported By: James Snyder WASTE MANAGEMENT				
	7. Organization Name: PADER				
	8. Organization: <input type="checkbox"/> 9. discharger <input type="checkbox"/> 10. public <input checked="" type="checkbox"/> 11. state <input type="checkbox"/> 12. local <input type="checkbox"/> 13. federal				
	14. Address: 40. BN 2063				
B. DISCHARGER	15. City: Harrisburg		16. County: Dauphin		17. State: PA
	18. Zip: 17128		19. Phone: 717, 487-9871		
	20. <input type="checkbox"/> As Above in A if 9 applies 21. Name: Whitmoyer Laboratories, Inc				
C. INCIDENT LOCATION	22. Address:				
	23. City: Myerstown		24. County: Lebanon		25. State: PA
	26. Zip:				
D. INCIDENT TYPE	28. <input checked="" type="checkbox"/> As Above in B 29. Street or Approx. Location:				
	30. City:		31. County:		32. State:
	33. Spill Date: (mm/dd/yy) 12-going (mid 1970's)				
E. MATERIAL	34. Spill Time: N/A				
	Material: <input type="checkbox"/> Oil <input type="checkbox"/> hazardous substance <input type="checkbox"/> Unknown		35. Material	UN/ DOT No.	CAS No.
	36. Concentrated Arsenic		37.	38.	39.
	40. Wastes		41.	42.	43.
F. SOURCE	44. Source of Spill: <input type="checkbox"/> 54. highway <input type="checkbox"/> 55. air transport <input type="checkbox"/> 56. railway <input type="checkbox"/> 57. vessel <input checked="" type="checkbox"/> 58. fixed facility <input type="checkbox"/> 59. pipeline <input type="checkbox"/> 60. offshore <input type="checkbox"/> Federal facility <input type="checkbox"/> Unknown		61. Vehicle ID or Carrier No.:		
	62. Description:				
	63. Medium Affected: <input type="checkbox"/> 63. air <input checked="" type="checkbox"/> 64. land <input type="checkbox"/> 65. water <input type="checkbox"/> drinking water <input checked="" type="checkbox"/> 66. groundwater <input type="checkbox"/> 67. within facility only none				
G. CAUSE	68. Waterway Affected:				
	Reported Cause: <input type="checkbox"/> 69. transportation accident <input type="checkbox"/> 70. equipment failure <input type="checkbox"/> 71. operational error <input type="checkbox"/> 72. natural phenomenon <input type="checkbox"/> 73. dumping <input type="checkbox"/> 74. unknown <input checked="" type="checkbox"/> 75. other				
	76. Description: storage tank leaking				
H. DAMAGES	Damages: 77. no. of injuries _____ 78. no. of deaths _____ <input type="checkbox"/> 79. property damage > \$50,000				
	80. <input type="checkbox"/> Evacuation 81. Response Action Taken: 1984 DER inspection				
	82. Caller Has Notified: <input type="checkbox"/> 82. state/local <input type="checkbox"/> 83. discharger <input type="checkbox"/> 84. USCG <input type="checkbox"/> 85. other <input type="checkbox"/> 86. unknown				
I. COMMENTS	Agency Name:				
	87. Comments: DER requesting that above site be preserved for removal action				
	<input checked="" type="checkbox"/> Additional Information				
J. REGIONAL DATA FIELDS	Responsibility: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> USCG <input type="checkbox"/> Non-duty hours		<input type="checkbox"/> CWA 311 Spill letter		
	Response by: <input checked="" type="checkbox"/> responsible party <input checked="" type="checkbox"/> State <input type="checkbox"/> local <input type="checkbox"/> OSC <input type="checkbox"/> other <input type="checkbox"/> USCG				
	Agency Name:				
	# OSC: Name _____ 311 Activation - PIC # _____ CERCLA Activation _____				
	EPA NOTIFICATION: Name, date, & time: _____ OSC notified: J. Garvela _____ WFO: _____ EPA: _____ Referral: _____				

D. Water System Extention Agreement



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WATER SYSTEM EXTENSION AGREEMENT

THIS AGREEMENT, made and executed this 22nd day of August, 1990, BY AND BETWEEN the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Region III, with offices at 841 Chestnut Building, Philadelphia, PA., 19107, (hereinafter referred to as EPA); and the MYERSTOWN WATER AUTHORITY, having its principal offices at 101 East Washington Avenue, Myerstown, Lebanon County, PA., (hereinafter referred to as Authority);

W I T N E S S E T H:

WHEREAS, twenty-four (24) residences, located in Myerstown, Jackson Township, Lebanon County, PA., have private drinking water wells which are contaminated with arsenic and volatile organic compounds released from the Whitmoyer Laboratory Superfund Site in Myerstown, Jackson Township, Lebanon County, PA.; and

WHEREAS, the EPA, pursuant to its authority under Section 104(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C., Section 9604(a), as amended by the Superfund Amendments and Reauthorization Act of 1986, P.L. 99-499, 100 stat. 1613 (1986), (hereinafter jointly referred to as "CERCLA"), intends to conduct a remedial action to provide the 24 residences with a potable water supply; and

WHEREAS, the Authority is a public water supply authority which provides potable water to the properties in the Borough of Myerstown and portions of Jackson Township, Lebanon County, PA.; and

WHEREAS, both EPA and the Authority agree that it is in the public interest to provide a permanent supply of potable water to 24 residences to protect human health or welfare or the environment; and

WHEREAS, EPA proposes to extend the Authority's water system into Jackson Township, Lebanon County, PA., by construction of a public water supply distribution main to serve the 24 residences; and

WHEREAS, EPA has requested the Authority to become the owner and operator of the water distribution system after its construction is completed.

NOW, THEREFORE, the parties hereto intending to be legally bound hereby, do agree as follows:

(1) EPA agrees to design and construct a waterline extension system and residential hook-ups for 24 residences to the water distribution system extension proposed below.



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(2) The water distribution system extension will be designed and constructed in accordance with OHM Corporation, (Alternate II, dated 4/10/90). A brief description of the alternate 2 design follows below.

(a) The Creamery Road Extension: The waterline extension for Creamery Road will be 6" ductile iron pipe, (DIP), connected to the existing 8" waterline along Old Route 422.

(b) The Fairlane Avenue Extension: A 12" DIP will be constructed along Fairlane Avenue, serving two properties south of CONRAIL and two residential properties at the intersection of Fairlane Avenue and King Street. This waterline will cross the Tulpehocken Creek and a CONRAIL line. A 12" DIP line or a booster station is required in order to provide the necessary tap pressure to residences at the far end of Fairlane Avenue. It has been determined that there is no significant cost difference in the construction of a 12" line versus a 6" line with a booster station; therefore, a 12" DIP line shall be constructed in order to eliminate the requirement of a booster station. This waterline will begin at the intersection of Old Route 422, off the 8" main waterline, and will be extended south to the King Street intersection.

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Once this Alternate II is in service, the Authority agrees to accept responsibility for any problems that may arise as the result of use of the larger pipe. EPA will not be responsible for solving any pressure problems that may arise through the use of the larger pipe size in lieu of the booster station.

(c) The Race Street Extension: The 8" DIP waterline will be constructed along Race Street. After crossing the Tulpehocken Creek, the waterline extension will be looped in the 6" waterline at the intersection of Locust Street and Maple Avenue. The Authority agrees to pay the delivered cost difference between 8" DIP and 6" DIP.

(d) The Locust Street Extension: A 2" polyethylene service line will be constructed along the Locust Street to serve the Eiceman residence.

(e) The Mill Avenue and Quarry Road Extension: A 6" DIP waterline will be constructed along the Mill Avenue and Quarry Road.

(3) EPA will backfill the excavated areas with the native material wherever this meets local and/or state specifications for backfill material; otherwise, PENDOT 2RC backfill material.

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(4) EPA agrees to restore all excavated areas in accordance with the Myerstown Water Authority standard specifications for trench repaving and restoration.

(5) EPA plans to align the waterlines off the paved roads as much as possible to minimize the disturbances of paved roads and daily public routine.

(6) EPA agrees to pay the standard tapping fees for 24 residences to hook-up service connections. No additional cost will be paid by the EPA before and/or after the service connections.

(7) EPA welcomes any voluntary on-scene participation of the Authority at critical aspects of construction at no cost to EPA. EPA will consider any constructive criticism from the Authority.

(8) The Authority agrees to assume responsibility for operation and maintenance of the waterline extension installed

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by EPA pursuant to this Agreement upon completion of this construction. Thereafter, EPA will not assume any responsibility for the waterlines, waterline pressures and residential service connections.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY

ATTEST:

BY: Jack Downie  
On-Scene Coordinator  
EPA Region III

ATTEST:

MYERSTOWN WATER AUTHORITY

BY: Roger Karsnitz  
Roger Karsnitz

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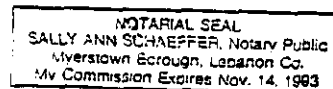
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COMMONWEALTH OF PENNSYLVANIA:  
: SS.  
COUNTY OF LEBANON :

On this 22nd day of August, 1990, before me, a Notary Public, in and for said Commonwealth and County, personally appeared ROGER KARSNITZ, known to me, (or satisfactorily proven), to be the Chairman of the Myerstown Water Authority, and that he as such Chairman, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the Myerstown Water Authority by himself as Chairman, and acknowledged that the foregoing Water System Extension Agreement is his act and deed and desired that the same might be recorded as such.

WITNESS my hand and Notarial Seal the day and year aforesaid.

*Sally Ann Schaeffer*



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COMMONWEALTH OF PENNSYLVANIA:  
: SS.  
COUNTY OF

On this \_\_\_\_\_ day of \_\_\_\_\_, 1990, before me, a Notary Public, in and for said Commonwealth and County, personally appeared JACK DOWNIE, known to me, (or satisfactorily proven), to be the On-Scene Coordinator, EPA Region III, of the United States Environmental Protection Agency, and that he as such Coordinator, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the United States Environmental Protection Agency by himself as Coordinator, and acknowledged that the foregoing Water System Extension Agreement is his act and deed and desired that the same might be recorded as such.

WITNESS my hand and Notarial Seal the day and year aforesaid.

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E. Newspaper Articles



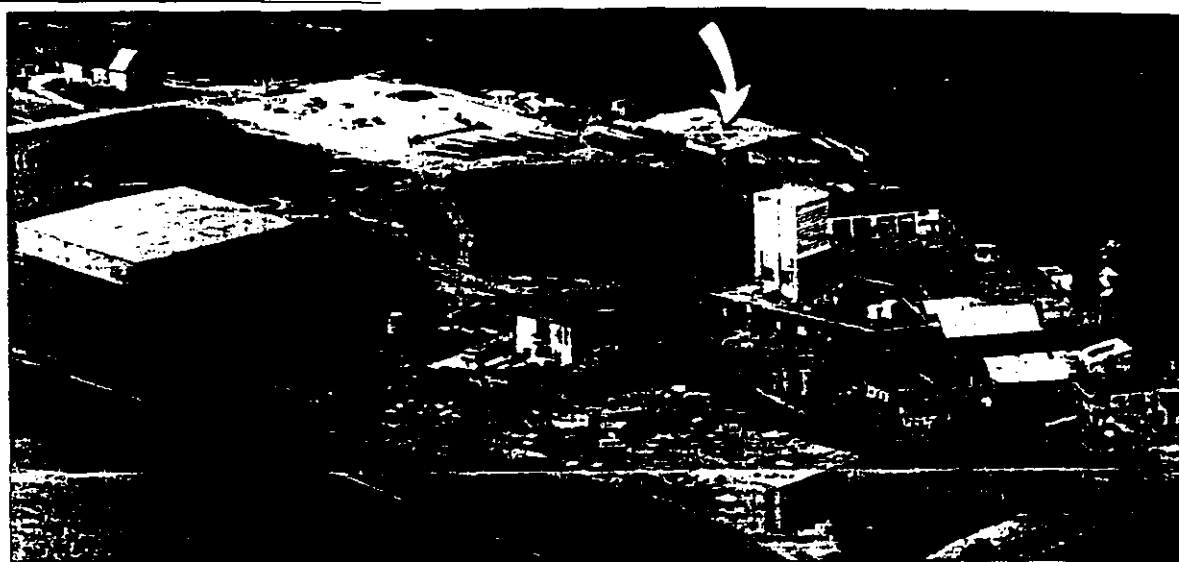
# The Daily News

115th Year — No. 15

Published Daily Except Sundays & Holidays

LEBANON, PA., WEDNESDAY, SEPTEMBER 26, 1984

36 PAGES 4 SECTIONS



Aerial view of Whitmoyer Laboratories in Myerstown. Arrow points to location of chemical sludge vault that put plant on list of toxic waste sites.

## Whitmoyer Says Chemical Vault No Danger

By HUGH LESSIG  
Staff Writer

A concrete vault that was built in the mid 1960s and holds chemical sludge put Whitmoyer Labs of Myerstown on a list of 203 hazardous-waste sites recently released by a New Jersey congressman.

But company president Frank Lucero said the 30-year-old vault is not a danger to the public, that it's simply a victim of environmental laws that have become more stringent over the years.

Ed Treat, Myerstown borough manager, said the vault is adjacent to the Tulpehocken Creek, which empties into the Blue Marsh Reservoir. The reservoir is the water supply for the Western Berks Water Authority, serving Shillington, Mauch Chunk, Pottsville, West Reading and other municipalities.

Lucero said someone told the vault was built by Rhom and Haas, a multi-national company that owned Whitmoyer Labs in the 1960s. During the clean-up-of-the-environment push headed by the Lyndon Johnson administration, the EPA directed Rhom and Haas to build a concrete vault to hold its chemical sludge, by-products of manufacturing animal feed products.

When the vault was first built, it was in compliance with current EPA regulations, Lucero said. But as environmental

laws evolved into the 1980s it fell "out of compliance."

Lucero said the owner has responsibility to dispose of the chemicals. EPA will probably dispose of the chemicals and send the bill to Rhom and Haas.

"Whoever caused the problem, has the problem," he said.

The list of 203 hazardous waste sites was released last Friday by Rep. James Florio, D-N.J., who called the sites a threat to human health and accused the EPA of suppressing the list for political purposes.

Lucero said flatly that the vault is not a danger to the public. It is located in the rear of company property and measures about 25 by 15 feet and seven feet deep. The top half of the structure is above ground, he said.

"It's fully contained," he said. "It was (designed) not in compliance rather than a hazardous waste site."

Treat said the vault is not related to arsenic levels detected in the borough's sewer system some two years ago and that still show up in trace amounts. Currently, the waste water treatment plant encloses two-hundredths of a part per million into its system, well under EPA regulations for arsenic of one tenth part per million.

Arsenic seepage from production at Whitmoyer is believed to have ceased, Treat said, because the only time the levels are affected is with the rise and fall of the water table.

This indicates that while chemical residue still exists, or new contaminants are being dumped.

Nevertheless, Treat said the vault is still a concern because it lies next to the creek.

Lucero said he thinks the vault was an easy target.

"Most dump sites are unclear. Ours is clearly defined," he said. "I think we're on it mainly because ours is an easy site to clean up."

Enactment of hazardous waste laws in the 1980s required certain chemicals to be disposed of at dump sites, often out of state. That's what will probably happen in this case.

"As laws evolve, they require substances to be deposited in other sites," he said. "This has been in the works way before me."

He added that the vault should have come to light some years earlier when the laws were changed. The vault has been in violation for some time.

"Chemical sludge residue in 1966 was fine," he said. "No body said to move it."

Whitmoyer Labs filed for voluntary Chapter 11 bankruptcy in July and most of the plant's workers were furloughed. Lucero said some workers have been rehired and the plant is still searching for a buyer.

# The Patriot

Volume 146—No. 240 THURSDAY, OCTOBER 8, 1987

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## Myerstown-area wells believed tainted by arsenic

By Tom Bowman  
Lebanon Bureau

MYERSTOWN — John Layser buys bottled water for drinking and cooking because the well water at his Jackson Twp. home is laced with arsenic.

Layser lives four blocks from the abandoned Whitmoyer Laboratories pharmaceutical plant. The U.S. Geological Survey estimates that 500,000 pounds of arsenic is stored on property of the bankrupt company.

Some of the arsenic has been buried in a cement vault along Tubbenucken Creek since 1976.

On Memorial Day, surgeons removed a brain tumor from Layser's 9-year-old son, Eric. Layser said he believes arsenic could have caused the malignancy.

The Whitmoyer plant is one of 950 places selected from among 27,000 sites nationwide to be cleaned up with money from the U.S. Environmental Protection Agency's \$8.5 billion Superfund.

"At this point, they don't even know if there is a leak there yet," Layser said yesterday. He wants the cleanup to begin now.

"People say, 'Why don't you sue them?' I say I want it cleaned up now because of health problems for my family and for other families in the area for years to come," Layser said.

Lloyd Kreider worries about his water, too.

"They [the company] ruined my parents' well," Kreider said. "There's arsenic in there. We're right across the fence on the west side of the Whitmoyer plant."

The company began piping water to Kreider's home in 1965 when the family found its well was polluted. Pipes were hooked to borough water lines inside the Whitmoyer plant.

"It takes heat to keep the pipes from freezing," Kreider said. "It [frozen pipes] happened twice last year." He fears cold weather will freeze his water supply again this winter.

"Whitmoyer bought water for everybody affected by this," Layser said. "When they went bankrupt, there was no more water fund. I don't think a lot of people still know that there's a big hazard right outside of Myerstown."

EPA Superfund spokeswoman Ann Cardinal said yesterday she does not know when cleanup operations will begin at the Whitmoyer plant, which was listed as a Superfund target in 1984.

"We do not look at sites and prioritize them," she said.

Cardinal said the Whitmoyer site was reclassified from among 27,000 "potential trouble spots" to one of 950 Superfund sites that will first be examined, then

See ARSENIC—Page A4



## Arsenic

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From Page A1

cleaned up. Of the 950 sites, 80 are in Pennsylvania.

Examination of the plant grounds will be done by a private contractor. Cardinal said a firm will be selected soon.

The examination will cost from \$750,000 to \$1 million and will take 12 to 18 months, according to Cardinal.

Then the cleanup can begin. The cost has not been determined, and no timetable for completion established.

Cardinal said an "emergency action" plan could be implemented at any time while long-range cleanup plans are being discussed. Emergency action could bring safe water to neighbors with polluted wells, she said.

Cardinal said she does not know when a team would visit the arsenic-tainted site to determine if emergency action is needed.

Trouble began at the Myers-town company in 1959, according to Sandy Roderick, a spokeswoman for the state Department of En-

vironmental Resources.

Arsenic wastewater treated with lime was dumped into unlined lagoons. Remedial action began in 1964, when Whitmoyer was purchased by Rohm & Haas Co. of Philadelphia, she said.

Workers dredged arsenic sludge from the bottom of the lagoon and dumped it into a concrete vault along Tulpehocken Creek. The vault was covered with a roof.

Wells were drilled near the vault. Groundwater contaminated with arsenic was pumped from the wells, then treated with ferric sulfate and lime.

Groundwater treatment stopped in 1971, according to Roderick.

In 1976, remaining arsenic wastes were consolidated into one lined lagoon, which was capped, she said.

In 1978, Whitmoyer was sold again, this time to Beecham Inc. of New Jersey. That firm sold the plant in April 1982 to Stafford Laboratories of Phoenix, Ariz.

Roderick said Stafford filed for bankruptcy in the summer of 1984.

## EPA warns Myerstown area of toxic hazard

By Tom Bowman  
Palm Springs News

MYERSTOWN — Area residents and schoolchildren could be injured if tanks holding 69,000 gallons of flammable and toxic liquids rupture at the Whitmoyer Superfund site in Lebanon County, a federal report says.

"A fire could cause the release of hazardous materials to the atmosphere," according to the U.S. Environmental Protection Agency report. "The West Myerstown Elementary School, a potential receptor, is located approximately 1,500 feet north-west of the tanks and piping."

EPA officials have recommended removing liquids from the tanks and transferring them from the abandoned plant to a treatment and disposal site. The tanks and pipes would be decontaminated and left on the site.

The report says workers and the public face risks from accidents while the tanks are being drained and the liquids transported from the property. Removing the liquids could take 18 months and cost

about \$450,000.

Twenty-seven of the 32 tanks filled with arsenic and flammable liquids are located on a sloping hill, 150 feet above Tulpehocken Creek, according to the EPA report.

"Without proper maintenance and controls, these liquids represent a significant threat to public health and the environment," the report says.

Federal officials say in the report. "The greatest risk to human health is from direct contact with these liquids by trespassers."

A fence encircles the property, and a guard is on duty at all times, said EPA spokeswoman Nanci Sinclair.

The report says liquids could be released from tanks not only by trespassers but also if pipes or tanks freeze during prolonged cold weather or if the vessels deteriorate.

After the Whitmoyer plant closed in 1987, neither the tanks nor protective dikes designed to contain spilled liquids were maintained.

EPA's report says liquids in the tanks

are corrosive, volatile and semivolatile.

"Vapors associated with these liquids are toxic," according to the nine-page report. "One-third of the tanks ... contain elevated arsenic concentrations ... known to cause cancer in humans."

"Releases from the tanks ... could also cause migration of contaminants to groundwater (and) could additionally contaminate this potable water supply," the report says.

Tulpehocken Creek and the Union Canal form the northern boundary of the plant property. A 1973 federal study placed the 11-acre site within the 100-year floodplain.

In December 1987, EPA officials began supplying bottled water and water filters to 13 homes surrounding the plant. Wells at 20 of those homes are contaminated with arsenic, and officials have found volatile organic compounds or industrial solvents in three wells.

The abandoned animal-pharmaceutical plant began producing medicines and livestock-growth stimulants containing arsenic during the 1950s.



The EPA recommends transferring the liquids from abandoned plant

THE DAILY NEWS, LEBANON, PA., THURSDAY, DECEMBER 15, 1988

## Local

# EPA Starts Cleaning Up Whitmoyer Laboratories

BY VERN ACHENBACH  
Staff Writer

MYERSTOWN — The federal Environmental Protection Agency is going to move about 800 drums of hazardous materials at the former Whitmoyer Laboratories Inc. to eliminate contamination to the area.

Drum removal is an agency response," Nancy L. EPA spokesman, said today.

Never we have do something called a quick remedial action because there could be im-

minent danger there," she said. "And we weren't sure exactly what was in these drums. Some of them may be incompatible and are lined up next to each other, so therefore we thought...there's the potential for immediate danger."

EPA hopes to start shipping the drums next week.

EPA will continue its investigation, started in July, to determine the extent of arsenic contamination at the site, on Fairlane Avenue in Jackson Township. Results of the probe won't be known until the middle of next summer, Sinclair said.

The long-term investigation is still proceeding," Sinclair said. "We don't have all the data base back on that."

The area around Whitmoyer has been affected by arsenic problems since the 1960s. The site was included on the EPA Superfund priority list for cleanup last year.

In a process called "overpacking," an estimated 800 rusting 55 gallon drums on the site are being put into 80 gallon drums and sealed. About 60 drums have been packed so far for shipment to a facility in Montgomery County where the chemicals will be treated before incineration.

The repackaged drums are being stored to keep interreactive chemicals apart. They will be shipped by truck starting next week and continuing until about mid-February, officials said.

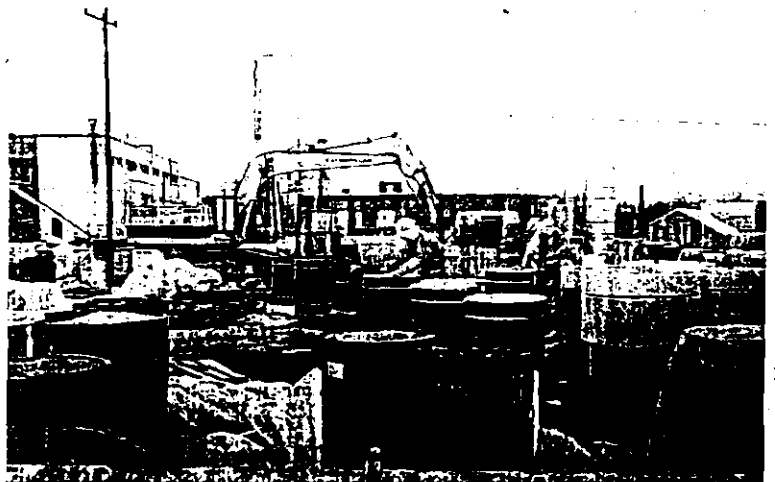
Only seven of the barrels were found to contain "arsenic tainted" sludge, according to Jack Downie, EPA on-scene coordinator for the drum removal. Downie said about 200 barrels contain either-containing substances such as solvents. The rest contain acidic and basic compounds.

Downie said he also hopes to remove a large tank containing about 8,000 gallons of arsenic tainted sludge on the site.

Downie said it was thought originally that the either-containing drums could be explosive or reactive to shock, but that they were deemed safe after a test two weeks ago. In the test, a backhoe driver with a shock shield punctured the drums.

Local Emergency Management Agency officials have been advised of plans to ship the hazardous materials, Downie said.

According to Sinclair, the drums are to be shipped to Waste Conversions Inc., Hatboro, where the hazardous materials will be treated, pending approval by the company. Those drums that require incineration will be taken to another site for



Workers seal large drums that contain hazardous chemicals at the Whitmoyer Laboratories

site in Myerstown Wednesday. The drums will be shipped to another facility for disposal.

final destruction. The chemicals and drums will be burned in the process, Sinclair said.

Oil and Hazardous Materials Co., based in Findlay, Ohio, was contracted by EPA to handle and test materials, Roy F. Veston Inc. is the consultant for the job, Sinclair said.

Meanwhile, about 22 Jackson Township families continue to receive bottled water from EPA, because water samples taken from their homes late last year showed levels of arsenic and a non-flammable chemical solvent, Sinclair said. Testing water supplies

has cost EPA about \$2.2 million to date.

EPA will continue to supply bottled water to the residents until a permanent water supply can be found. Tuesday night, EPA officials presented an offer to the Myerstown water authority officials that said in effect that EPA would pay for extending public water lines to the township homes if the borough would assume maintenance, operation and repair costs, Sinclair said.

The water authority has yet to review the offer in an official capacity, according to EPA officials.

Actual cleanup at the Whitmoyer site would begin, she said, that once an ongoing remedial investigation is completed. EPA will probably hold a public hearing and comment period to discuss alternatives for the cleanup process. She said the investigation should be completed mid-summer and a public meeting could possibly be held in August or September.

Should EPA's plans be deemed unacceptable by the public for valid "technical reasons," then officials would have to revise the plans and



Vern Achenbach / The Daily News

Workers dress in protective gear to handle drums containing hazardous chemicals at the former Whitmoyer Laboratories site.

**DAILY NEWS, LEBANON, PA., NOVEMBER 22, 1989**

**Firm won't  
provide funds  
for water line**

By JOHN FEASER  
For The Daily News

MYERSTOWN — The Jackson Township will not install larger water lines in the western part of the community.

The decision came after supervisor Clyde Deck read a letter from P.J. Valves Inc., informing the township that the firm would not provide any financial support for the installation of larger water lines to its King and Fairlane Avenue plant. The company had been interested in having a 18-inch line installed to provide water for a water tower and a sprinkler system. The firm explained in its letter that its insurance program had changed resulting in lower rates for the plant. The lower rates made the installation of a sprinkler system and the need for increased water supplies unnecessary.

Both Deck and supervisor Dean Meyer said they felt that as a result of the withdrawal of industrial support for the water line larger than the Environmental Protection Agency wanted, they are willing to let the Myerstown Water Authority and EPA complete their own plans for installation of water lines to meet the needs of residents in west Myerstown. The extension project is an effort to bring potable water to residents whose wells were contaminated by arsenic from a defunct pharmaceutical plant in west Myerstown. Deck said that the supervisors would become concerned about industrial water needs when the industries want it.

Supervisor Walter Swonger was not at the meeting.

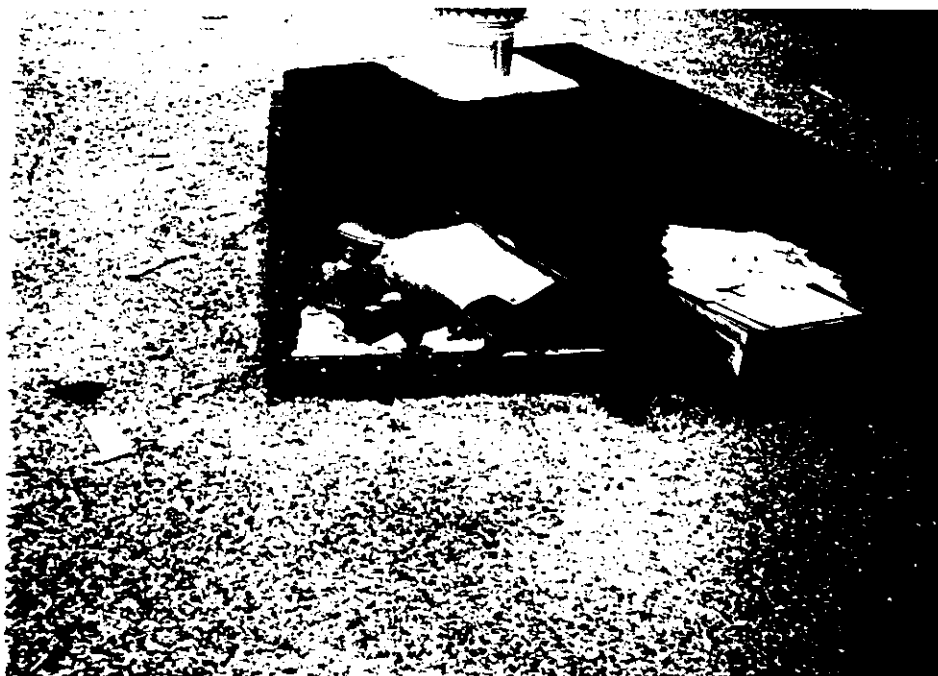
The supervisors also opened bids for the sale of a 1978 dump truck. Commonwealth International Truck, Harrisburg, offered \$6,500 and Wengert's Farm Machinery offered \$2,125. Commonwealth received a contract at the last meeting to provide a new dump truck for the township for \$63,510.

The supervisors passed a resolution to allow the Kutztown Fire Co. to purchase surplus equipment from a federal agency.

The Daily News, Lebanon, Pa., Wednesday, November 22, 1989

**Local**

**F. Photographic Documentation**



Photograph #: 1

Date Taken: July 10, 1987

Photographer: Region III TAT

Description: A view of the contents of one of the arsenic vaults onsite. This vent was easily opened by TAT members when doing an initial site inspection.

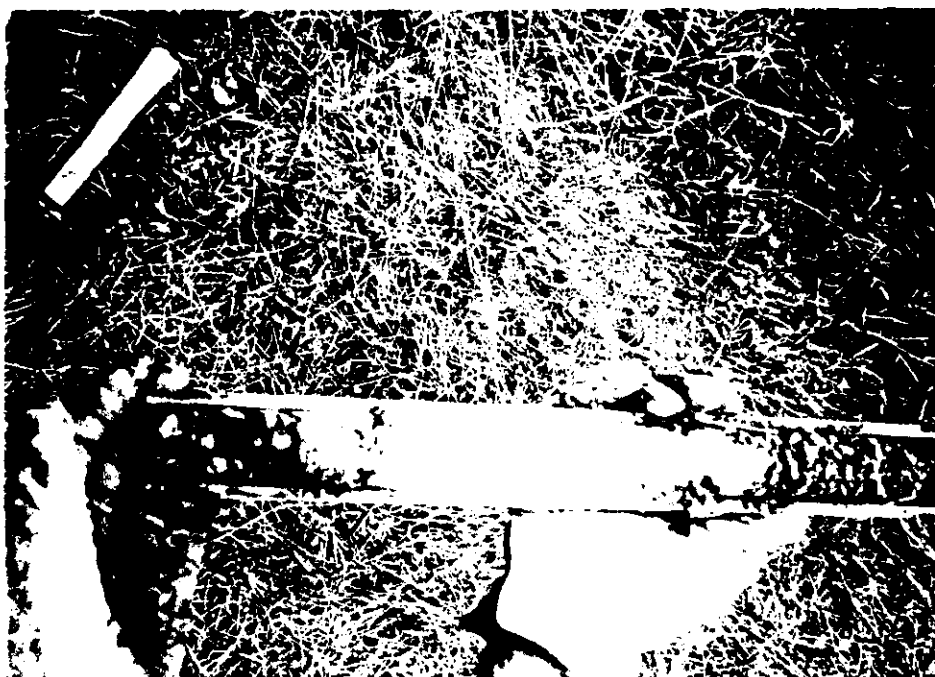


Photograph #: 2

Date Taken: July 10, 1987

Photographer: Region III TAT

Description: A view of the contents of one of the arsenic vaults onsite. This vent was easily opened by TAT members when doing an initial site inspection.



Photograph #: 3

Date Taken: July 10, 1987

Photographer: Region III TAT

Description: Soil core sample taken from former lagoon area onsite.

ORIGINAL  
(10-2)



Photograph #: 4

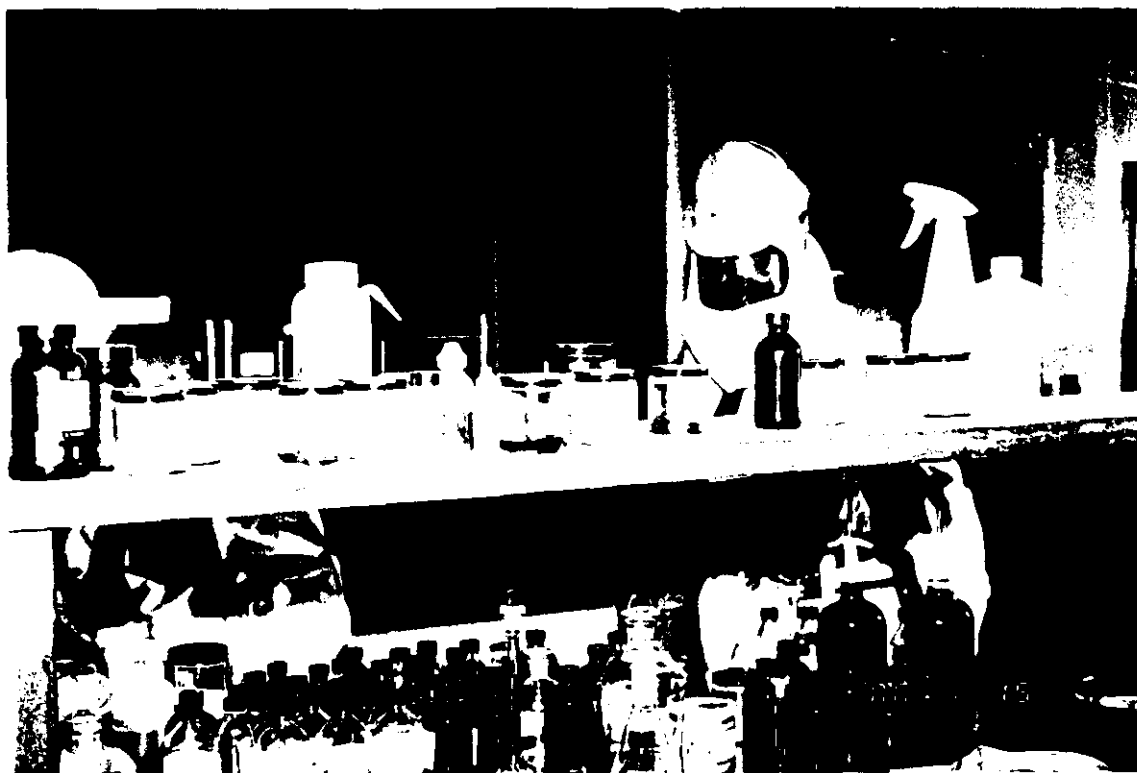
Date Taken: August 1988

Photographer: Region III TAT

Description: Pre-removal view of lab chemicals in the building #10 laboratory.



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Photograph #: 5

Date Taken: August 1988

Photographer: Region III TAT

Description: Pre-removal view of lab chemicals in the building #10 laboratory.



Photograph #: 6

Date Taken: August 1988

Photographer: Region III TAT

Description: Pre-removal view of lab chemicals in the building #8 laboratory.

CONFIDENTIAL  
FBI



Photograph #: 7

Date Taken: August 1988

Photographer: Region III TAT

Description: Pre-removal view of haphazardly stored, leaking drums onsite.



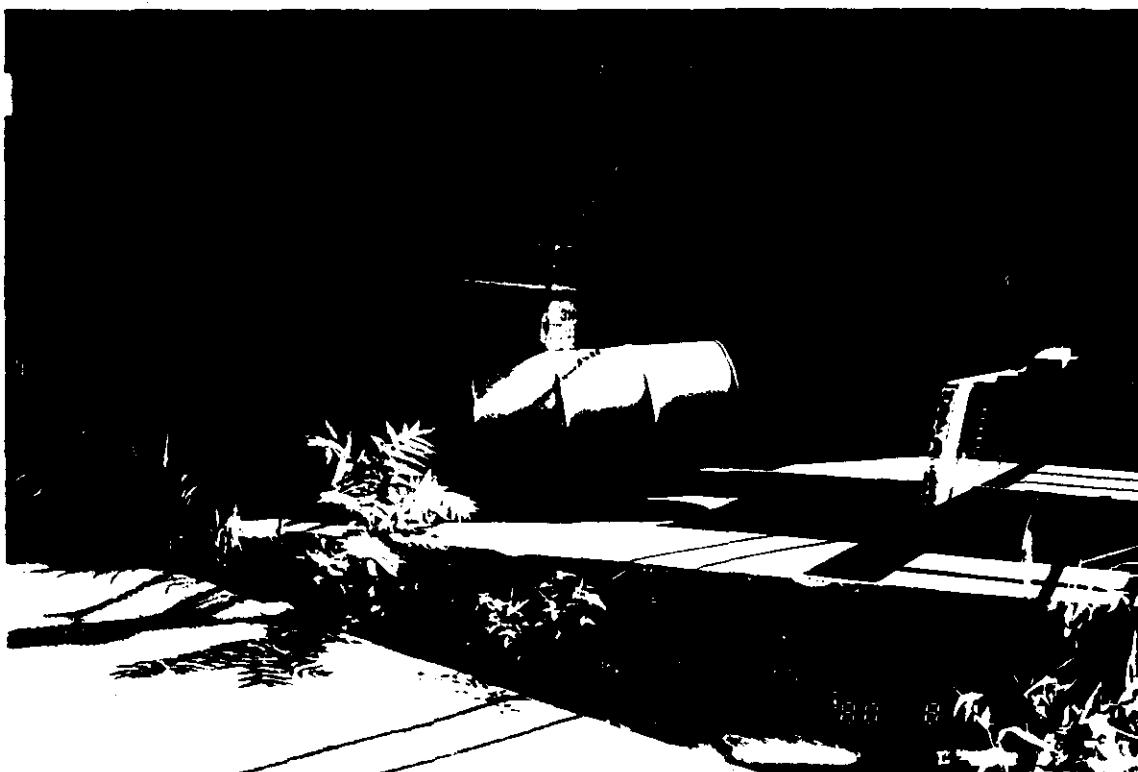
Photograph #: 8

Date Taken: August 1988

Photographer: Region III TAT

Description: Several old tankers which contained unknown liquids were stored onsite. Many of the tankers were leaking.

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Photograph #: 9

Date Taken: August 1988

Photographer: Region III TAT

Description: Drums were stored outside with no protection from the elements, as evidenced by this bulging drum.



Photograph #: 10

Date Taken: August 1988

Photographer: Region III TAT

Description: Drums were also stored in leaking buildings onsite. drum.



Photograph #: 11

Date Taken: August 1988

Photographer: Region III TAT

Description: Many tanks of unknown materials were also onsite both inside and outside of buildings.



Photograph #: 12

Date Taken: November 1988

Photographer: Region III TAT

Description: ERCS staged drums in an effort to more easily sample and then organize the drums in preparation for disposal.





Photograph #: 13

Date Taken: November 1988

Photographer: Region III TAT

Description: ERCS staged the drums in an effort to more easily sample and then organize the drums for disposal.

ENCLOSURE  
7/2/89



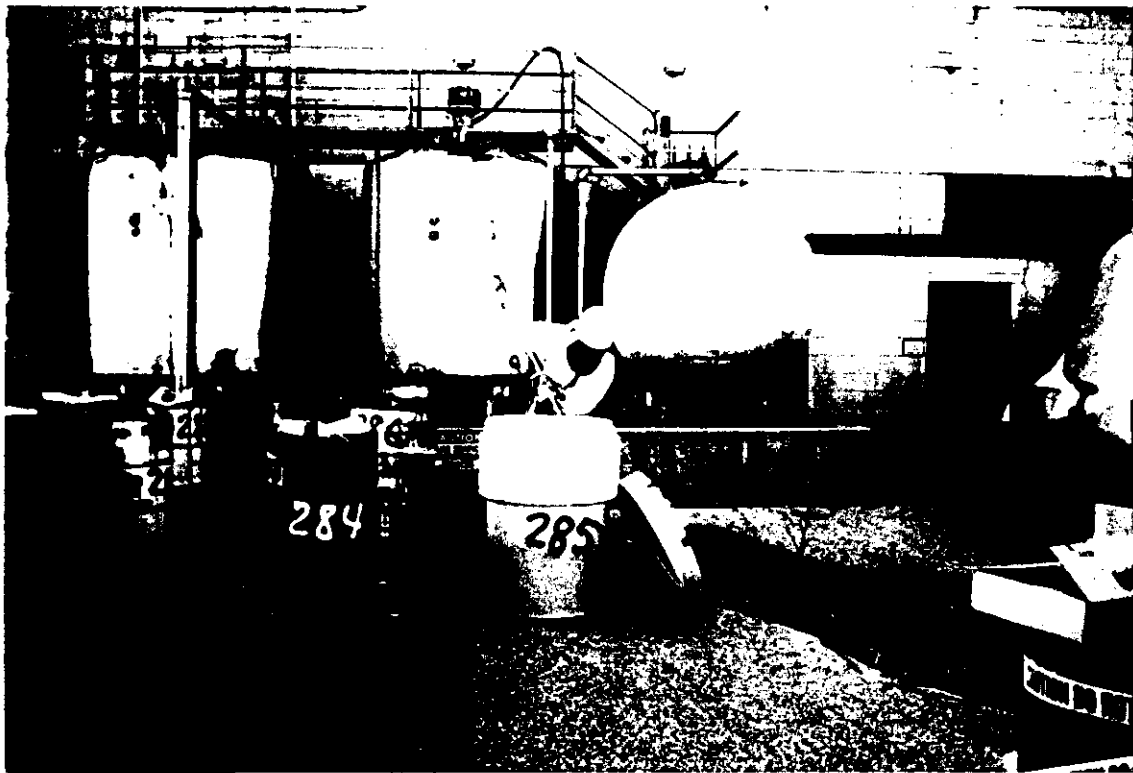
Photograph #: 14

Date Taken: November 1988

Photographer: Region III TAT

Description: TAT performed air monitoring throughout drum sampling operations.

01/15/89  
10:15



Photograph #: 15

Date Taken: November 1988

Photographer: Region III TAT

Description: ERCS sampled all of the drums found onsite that contained material. These samples were then analyzed so that the drums could be classified for disposal.

ORIGINAL  
(Red)



Photograph #: 16

Date Taken: November 1988

Photographer: Region III TAT

Description: Drums containing unidentified material were remotely opened for sampling in order to protect workers from potential hazards.

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Photograph #: 17

Date Taken: November 1988

Photographer: Region III TAT

Description: Pure sodium metal found onsite was divided in preparation for treatment.

ORIGINAL  
(Red)



Photograph #: 18

Date Taken: November 1988

Photographer: Region III TAT

Description: A view of the onsite treatment of the sodium.

11/15/88  
11/15/88  
11/15/88



Photograph #: 19

Date Taken: November 1988

Photographer: Region III TAT

Description: Picric acid, a potentially shock-sensitive material, was handled with great care.



Photograph #: 20

Date Taken: December 1988

Photographer: Region III TAT

Description: After they were sampled, the drums were overpacked using heavy machinery.





Photograph #: 21

Date Taken: December 1988

Photographer: Region III TAT

Description: The overpacked drums were then staged in compatibility groups determined by analysis of the samples. This was done in preparation for final disposal.



Photograph #: 22

Date Taken: December 1988

Photographer: Region III TAT

Description: Contaminated water was removed from several dikes surrounding leaking tanks.



Photograph #: 23

Date Taken: March 1989

Photographer: Region III TAT

Description: After disposal arrangements were made, contaminated materials were removed from site.

03/29/89  
Jared



Photograph #: 24

Date Taken: March 1989

Photographer: Region III TAT

Description: A view of the PRP removing some of the material from site.



Photograph #: 25

Date Taken: March 1989

Photographer: Region III TAT

Description: A view EPA removing some of the material from site.



Photograph #: 26

Date Taken: March 1989

Photographer: Region III TAT

Description: Several tanks of hydrazine were treated and neutralized onsite.

06/25/89  
JTB



Photograph #: 27

Date Taken: June 1989

Photographer: Region III TAT

Description: Yellow phosphorous was treated onsite.



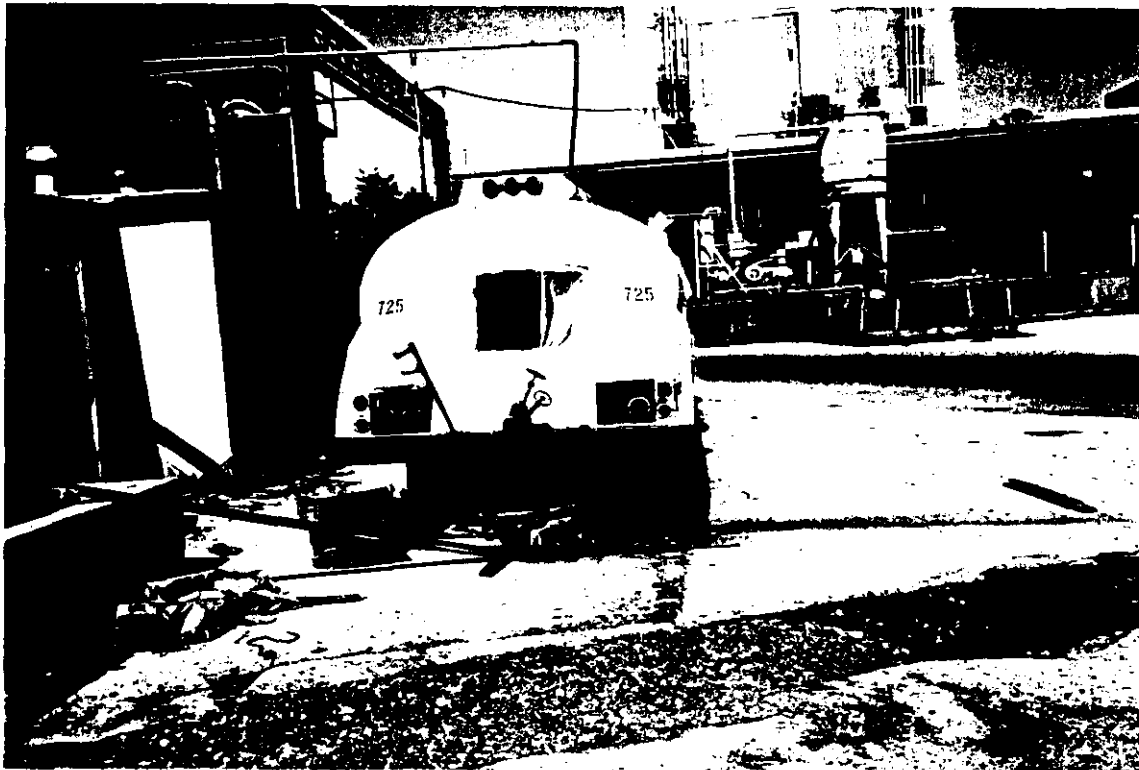
Photograph #: 28

Date Taken: October 1990

Photographer: Region III TAT

Description: After removal activities were completed onsite, all of the tanks had been opened and cleaned.





Photograph #: 29

Date Taken: October 1990

Photographer: Region III TAT

Description: After removal activities were completed onsite, all of the tank cars were opened, emptied and cleaned.



Photograph #: 30

Date Taken: October 1990

Photographer: Region III TAT

Description: A final view of the site after removal operations were completed.